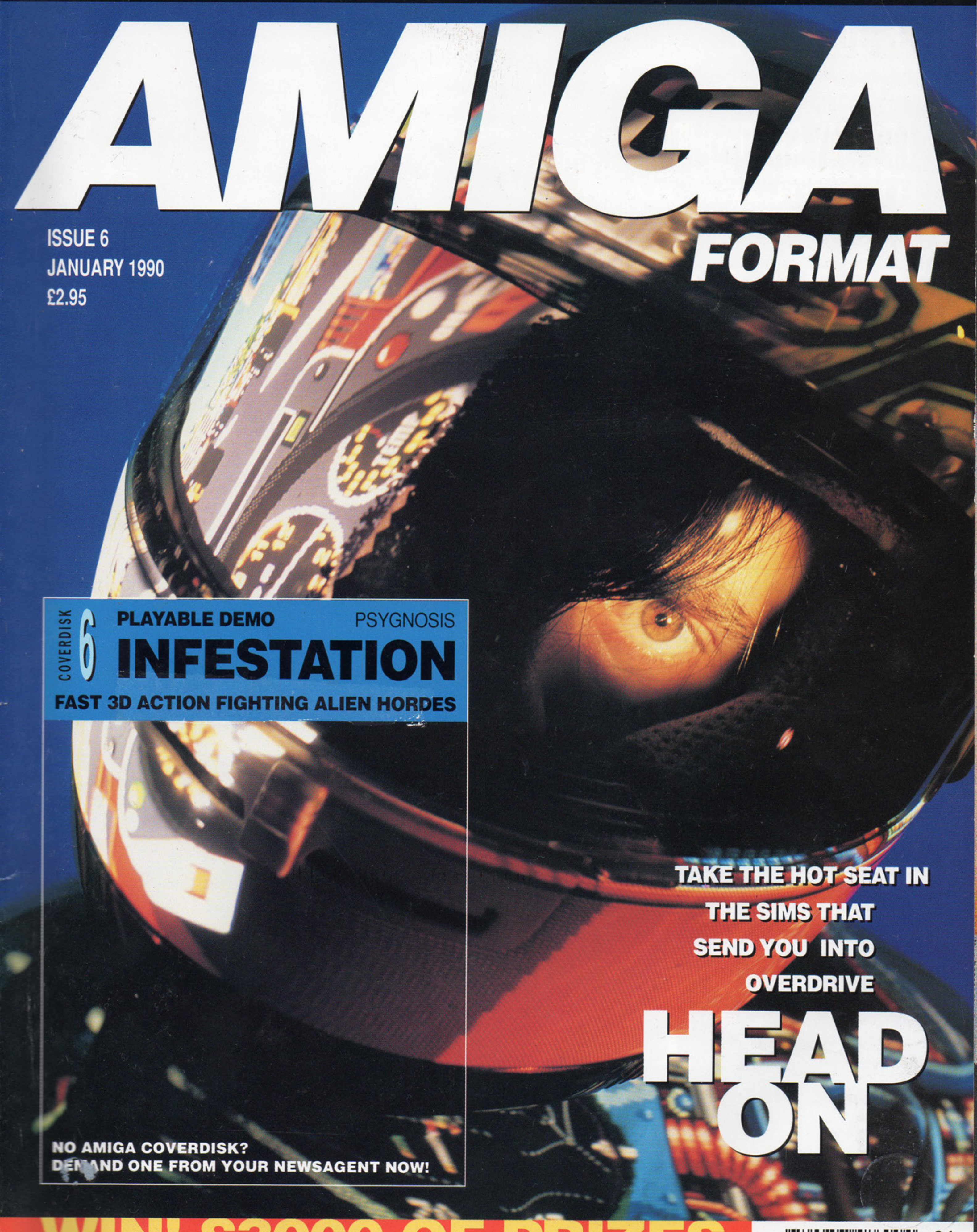
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AMIGA FORMAT

ISSUE 6
JANUARY 1990
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PLAYABLE DEMO PSYGNOSIS
INFESTATION
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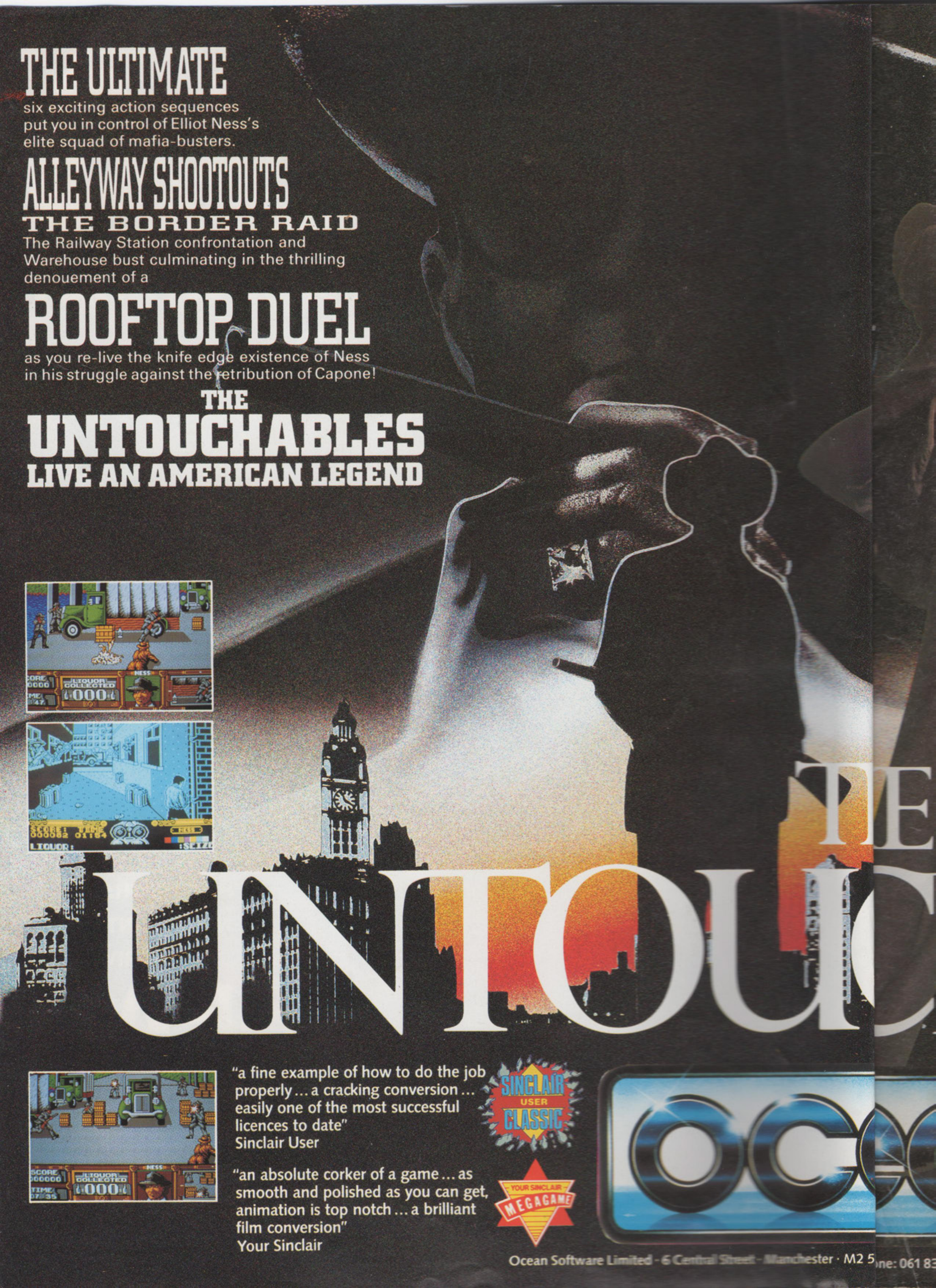
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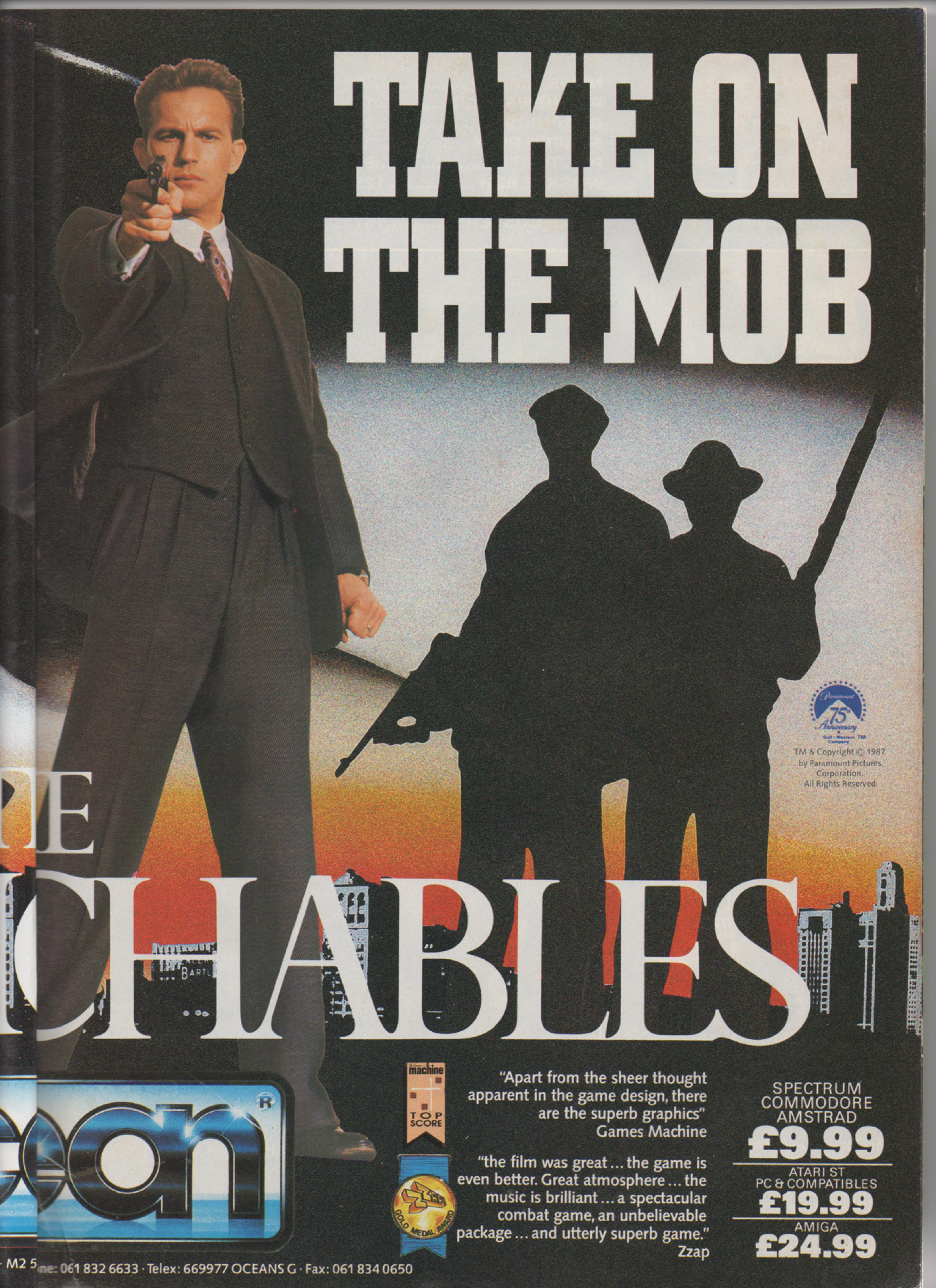
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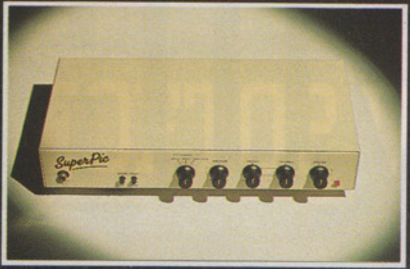
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DISK EXTRA



AMIGA FORMAT ISSUE 6 JANUARY 1990

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DISK EXTRA

INFESTATION

Psygnosis transport you to a distant planet to clean up an alien breeding ground in our playable demo of this stunning filled-3D mould-breaker.

BACKGROUND MUSIC PLAYER: Digitised sound to accompany whatever you're doing ■ **CLOUD9:** Full-colour fractal landscape generator ■ **GAMEBUSTERS TIPS SPECIAL:** Hints, maps and pokes to beat those games ■ **PREFERABLE PREFERENCES:** Clever Prefs set-up ■ **WORKBENCH HACKS:** Three more!

99





WHAT IS A SIMULATION? WHY DO WE DEMAND REALISM? WE TAKE A LOOK AT THE QUESTIONS BEHIND THE FACEMASK.

PLAYING FOR REAL 17

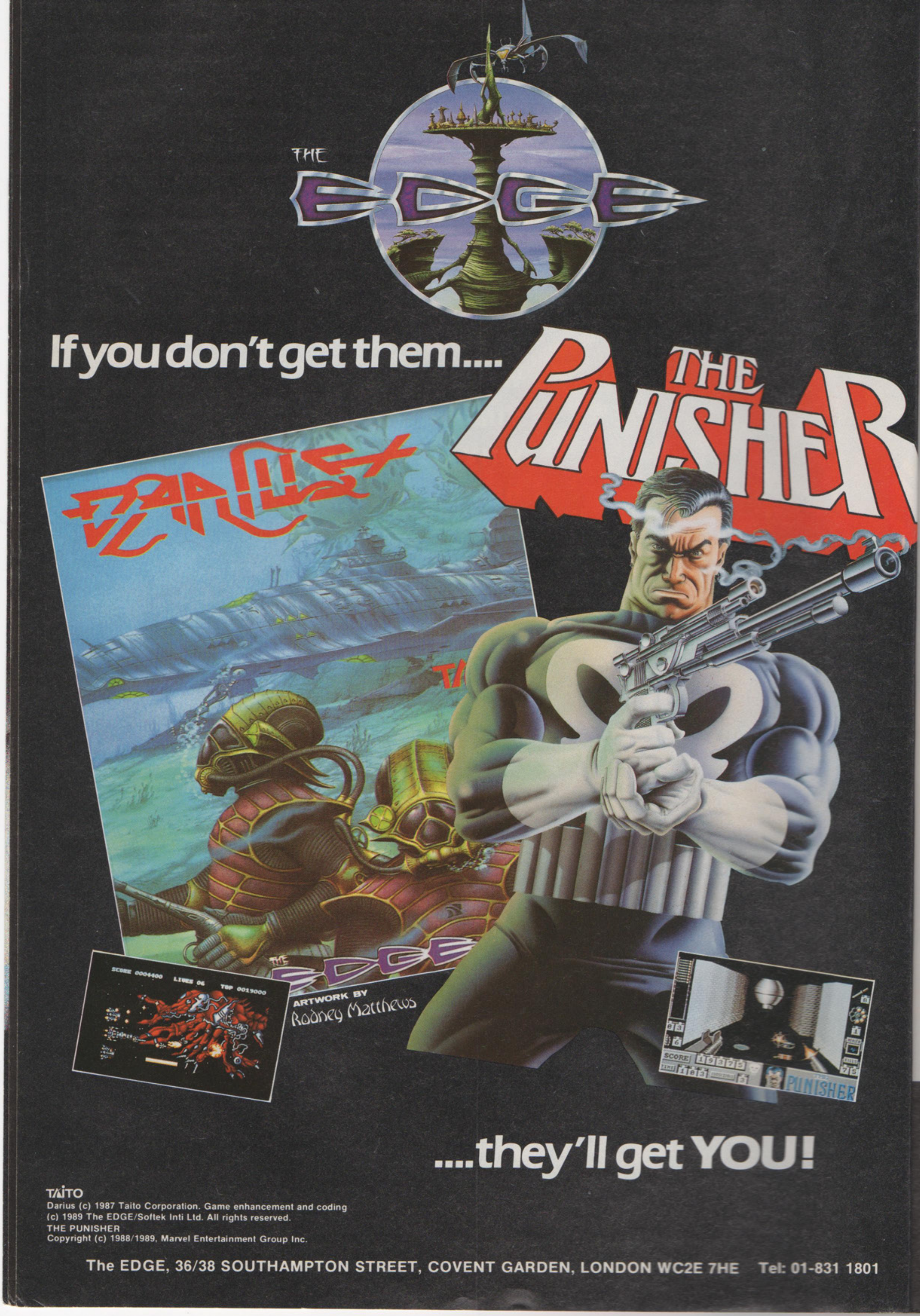
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A BURDEN SHARED

The Nighthawk is a useful new device that allows more than one Amiga to use a printer or plotter without messing about changing cables. It also allows more than one printer to be shared by machines.

The simplest Automatic Printer Switcher (APS) can be configured for 2,4 or 6 users and one peripheral with a parallel port, and costs between £125 and £259. APS-2 units can share two parallel devices and can be set up for four users for £249 and six users for £329.

Top of the range is the SPS Plus which can handle both serial and parallel ports for six users and two peripherals. The SPS Plus comes in three versions: 256K buffer, two serial ports and two parallel ports at £505; 256K buffer, two serial and four parallel at £579: 512K buffer, two serial and two parallel at £575. Full details from Action Computer Supplies on 0800 333333.



POWER TOWER

Emerson have launched a new range of uninterruptable power supplies called Accupower. A UPS gets rid of all those power spikes, surges, sags, line noise and black-outs. In the event of a complete power failure it also provides five minutes' power in which to finish and save whatever you were working on. There are five models in the Accupower range from 150VA to 1400VA, priced from under £200 for the low-end unit, to under £800 for the top model. For more details phone Emerson Electric on 0793 524141.





LOW SHOW SHOWING

After the enormous success of the June Commodore Show, many expected great things from the Christmas show, now deemed 'officially' official since Commodore announced that it would be taking over all the administration-type affairs from the former organisers, Database Exhibitions.

Unfortunately for Commodore, Christmas Commodore Shows have never been a great success, and this year's was certainly no exception. Although the show seemed to be packed by mid-morning on all three days, many stand holders reported that the show was practically devoid of punters by three in the afternoon. However, Commodore officially heralded the show as a resounding success, with 8,200 loyal Commodore owners taking the trouble to turn up.

This years show marked the welcome arrival of the leisure software big names to the show. Ocean were there, complete with *Batman*, *Cabal*, *The Untouchables* and other upcoming releases. Electronic Arts showed their popular *Deluxe* range of products and previewed *Star Flight*, the Amiga conversion of the highly-acclaimed PC game.

The award for most crowded stand must certainly go to Domark, who were previewing their Amiga conversion of the arcade hit *Hard Drivin'* to a captivated audience. Other big names to be found displaying their wares included MindScape, MirrorSoft and Anco.

Unlike previous Commodore Shows, Commodore split their stand into three separate sections: a business stand (containing Commodore's impressive range of PCs and Amiga 2000-based Workstations), a games arcade (with all 50p admission fees being given to the 'Children in Need' fund) and a stand devoted almost entirely to the musical applications of the Amiga (*Music-X* mainly).

Bargain hunters were in their element, picking up anything from cheap disks to cheap B2000s. However, very few companies showed new products. Of the few that did, the most interesting were to be found on the Hi-Tension stand. Hi-Tension took the opportunity to launch a number of new products including a SuperPic-challenging Frame Grabber, a new broadcast-quality genlock and The Tipster, a race horse prediction program (see story elsewhere).

Sharped-eyed visitors may have noticed the presence of both 1.4 Workbench/Kickstart and the new Enhanced Chip Set being previewed on the Bytes & Pieces stand (just don't tell Commodore, though!) For prospective Hard drive buyers, Frontier showed their range of Supra drives for both the 500 and 2000, as well as using the show to launch their A2000 'modem on a card', the 2400zi.

16-BIT COMPUTER FAIR

There's another new show on the horizon and this one is aimed specifically at 16-bit owners. It's called the 16 Bit Computer Fair and takes place at the Royal Horticultural Halls, Victoria, London from January 12-14. The organisers say over 90 companies will be exhibiting and expect 20,000 visitors. To book advance tickets at the discount price of £2, call 0726 68020.

WE'RE ON THE MOVE

We're on the move to spanking new offices at the end of December – so from the New Year this is the new address for all editorial and advertising correspondence: Beauford Court, 30 Monmouth Street, Bath, Avon BA1 2AP. We also have a new telephone number, and it's much easier to remember: 0225 442244. The Fax number stays the same: 0225 446019. The move actually takes place in between Christmas and the New Year, so you probably won't be able to contact us for that week.



NOT HQ?

By now you should have realised that the promised Coverdisk demo of Ocean's *Chase HQ* is not there. Our apologies for this: it just was not possible to get a playable demo on in time. We think you will agree that Infestation from Psygnosis is a more than worthy replacement.

VAMPED UP VIDEO

A brand new version of *Deluxe Video* is about to hit these shores, Number III. It's the successor to versions 1.0 and 1.2 and Electronic Arts reckon it "sets a new standard for Amiga presentation graphics".

The new version is available at a special price of £79.99 until the end of February, £99.99 after that. Owners of 1.0 or 1.2 will also be able to upgrade for £45. To be able to use the program you'll need 1 Meg of Ram, 2 disk drives or preferably a hard disk, and obviously a genlock.

It supports all the resolution modes and also overscan for borderless graphics on videotape. It can use any IFF picture including brushes as well as standard Anim files, both in any resolution. It also supports *SSVX* sound files, *SMUS* music files and is compatible with *Deluxe Paint III* Anims and AnimBrushes.

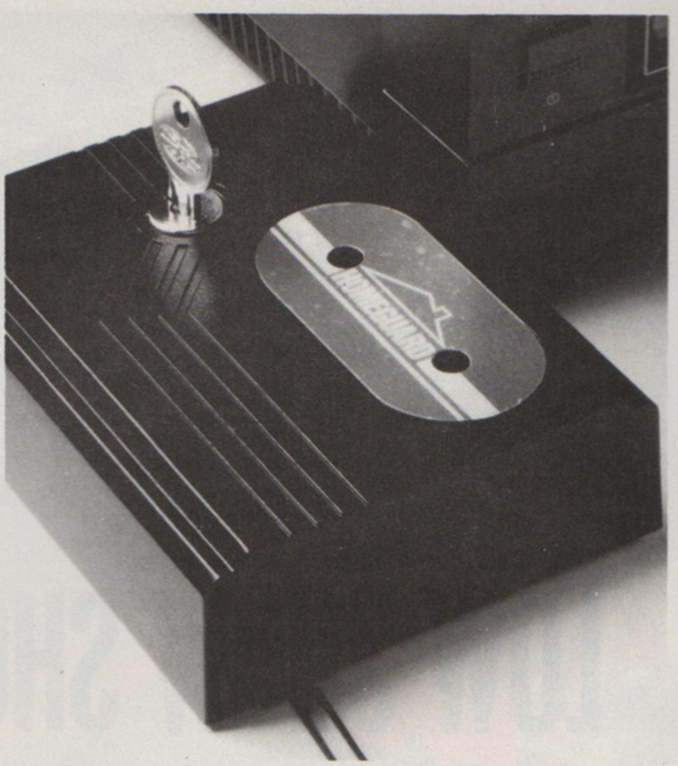
It has plenty of control over other devices too: an ARexx message port to external device or program drivers, MIDI output, genlock control of fades and a single frame VCR control. The software has many more features too, which we'll go into in a review in a later issue. Meantime, more from Electronic Arts on 0753 49442.











CRIMEWATCH AMIGA

Worried about someone stealing your Amiga? Then perhaps you'll be interested in the Audio and Video Guard, an anti-theft alarm from Homeguard UK. The unit has a strip that senses electromagnetic current and can tell if the computer is switched off, unplugged or the cable cut – resulting in 45 seconds of piercing alarm sound. It's powered by a single battery and costs £14.95. More from Homeguard on 0327 78874.

TRASH LINED UP

Adventure playing comms fans will be pleased to hear of a new MUG (Multi-User adventure Game) from Third Millenium Systems, the people who created *Shades*. The new game is called *Trash* and apparently will feature such delights as fire-breathing cabbages, growing yourown spaceship and being rained on by pink blancmange. It should be available in the New Year on Micronet, Prestel, Telecom Gold and Callstream.

More information from Third Millenium at any of these contact points: tel – 010 33 42 51 57 83, Prestel mbx – 011113232, Telecom Gold – 87:SQQ826, Compuserve – 72571,61, or at PO Box 118, East Grinstead, Sussex RH19 4FA.

RACK-EM-UP

A handy Christmas gift for anyone with tapes, disk boxes or CDs, is the Cassette Storage System from Powerplay. It won't take the big boxes that most Amiga games come in these days – you need loads of shelf space for them. It costs £5.99 from Powerplay on 0457 871666.

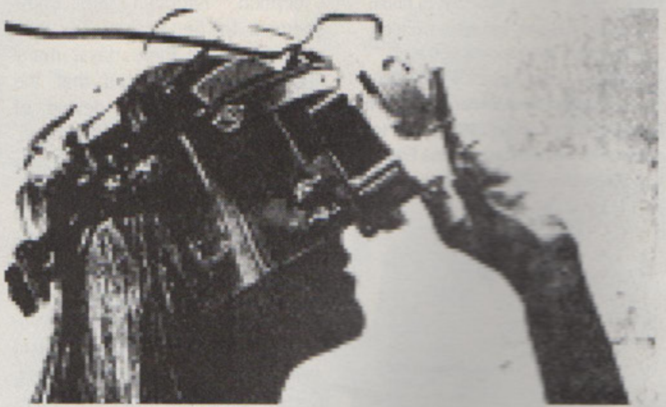
CHEAP AND COMPACT

Budget software house Code Masters have joined the 16-bit price war with their own games at £4.99 and with stunning news of games on compact disc.

The £4.99 price matches that of arch-rivals Virgin/Mastertronic and their 16 Blitz label. The four games initially released are *Treasure Island Dizzy, Nitro Boost Challenge, Advanced Rugby Simulator* and *Pro Ski Simulator*.

Even more exciting are their plans to put games on a CD which can be loaded from a standard CD player. The system already works for the Amstrad CPC, Spectrum and Commodore 64: they get 30 games for just £20. There are apparently still hitches with the Amiga version: watch this space for further details.

TRACKED DOWN IN CYBERSPACE



Bizarre adjunct to this month's piece on Cyberpunk is the announcement, by Track Computer Systems of Nottingham, of a new Hypercard-style data organisation system in what has come to be known as the multi-media genre. Enter the CyberPad. This remarkable utility promises to present paths through data structures in a simple graphical way as well as offering an animated guide character (with map and binoculars!)

Besides providing a unique means of finding your way through all kinds of data, CyberPad will exploit the Amiga's multi-tasking capabilities to make all combinations of sonics and graphics possible.

Most extraordinary of all is the promise to present data structures, through video visors and a control glove, as a sort of 'Cyberspace' image. "Imagine being able to hunt down and kill your favourite virus" enthuses the press release enthuses. Weird stuff indeed. We hope to be talking to track about their ingenious ideas in a following issue.

Meanwhile, Track are offering all Postscript-compatible DTP or WP users a free Postscript printing service if they are working on the Amiga: and they have also got together a *Kick Off* team which hopes to take on challengers, the losers donating £50 to a charity of the winners' choice!

Austerlitz

COMING SOON ON ATARI ST, AMIGA & PC



Written and designed by Dr Peter Turcan. Illustration by Peter Curzon

Get ready to experience the Horror and Glory that was the battle of Austerlitz!

The date is the 2nd December 1805. The place is a few miles east of Brunn in the province of Moldavia. Ranged across the barren Pratzen heights are the forces of the Austro–Russian army. Facing them, between Santon Hill and the River Bosenitz is Napoleon's Grand Armée. The greatest battle ever to be fought by France's 'Little Corporal' is about to begin.

Using a unique system developed by Dr. Peter Turcan, AUSTERLITZ gives you the opportunity to relive that battle. The battlefield is represented on your screen in incredible 3D graphics. You can actually observe your troops as they move and fight their way across the terrain.

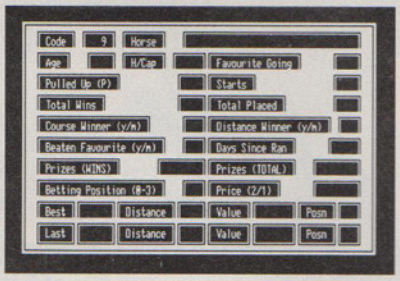
Your orders are written out for your Corps Commanders, just as they would have been at the actual battle, and then relayed by messenger riders. Of course, orders might be reinterpreted, ignored, or even fail to get to their anticipated destination, and even if they do arrive, it all takes time – exactly the sort of problems faced by Napoleon and the Russian Czar Alexander on that cold winter day.

Play* AUSTERLITZ, *and take up the challenge that gives you the chance to rewrite the history books!

TIPPING THE BALANCE

The Tipster is a new program that helps anyone who likes a flutter on the horses make money rather than lose it. In conjunction with a copy of the *Racing Post,* the program's database of horses allows you to analyse all the information to evaluate a race.

The theory behind the program is that by sticking to a rigid system of rules the winnings will improve. The claim is that "*The Tipster* will give you the extra information required to pick Horses not Zebras." Zebras?! More information from TAM Marketing on 0392 215485.



ENTER THE FINANCIAL ARENA

Arena Accounts is a fully-integrated accounting package that can deal with the sales/purchase ledger, nominal ledger and invoicing. It's from Arena Technologies Ltd on 0724 280222 and at Queensway Business Centre, Brigg Road, Scunthorpe, South Humberside DN16 3RT. A support service is offered for £57.50 that provides a technical hotline for one year, free upgrades to the latest version of the software, discounts on training courses and discounts on new modules and products.

HOW FAT IS YOUR AGNUS?

So you've all been excitedly reading the various reports and previews of Commodore's new Enhanced Chip Set. According to Commodore, the ECS upgrade will not officially be made available until at the earliest the end of next year, but if you've very recently treated yourself to a nice new Amiga 500, chances are that your machine already contains the new Agnus graphics chip, workhorse of the Enhanced Chip Set (ECS) upgrade.

Although the main advantages of the ECS upgrade will only be available with the fitting of the ECS Denise chip, the new Agnus provides any Amiga with access to a full megabyte of chip RAM. However, due to problems with the A500 only having a half megabyte of RAM, A500s have been deliberately designed not to take advantage of this improved performance.

Only once the machine has been fitted with a 1 Mb RAM expansion and then sent back to Commodore's maintenance company, Granada, can the upgrade be utilised. Although the company would not name the price for the modification to be carried out, a third-party hardware producer claimed that the cost was approximately £30 – even if the machine is under guarantee.

These new A500s also contain space on the main board for a further 512K of RAM to be fitted. However, when a well-known producer of Amiga hardware questioned Commodore about the possibility of producing an upgrade kit to use this space, the company threatened to instruct Granada to not accept any machines that contained their upgrade, even if the machine was under guarantee and the user was willing to pay for the repair.

SEE HOW IT RUNS

There's a new mouse out and about from a new company, Naksha. It's an ingenious little fellow that will not only work with the Amiga but with the Atari ST and Amstrad PC. It has a resolution of 280 dpi, which is higher than the standard Amiga mouse.

As well as the mouse you get an adaptor, mouse mat, mouse holder and a discount voucher for Electronic Arts software. It costs £39.99 and you can get further details from Naksha on 0925 56398.



TRIP THE LIGHT FANTASTIC

Jeff Minter and his software house Llamasoft are one of the computer industry's great survivors: he's furry, writes freaky games and produces really weird programs like *Trip-A-Tron.* Said program is about to make its appearance on the Amiga and should be stranger than something that is quite unusual and has a special reason for being odd.

Trip-A-Tron defies classification but is basically a performance tool allowing you to create graphic demos, sequences, light shows, whatever you care to call them. Its intention is to be used in conjunction with music to create a 'performance'. Llamasoft say "it gives its users an interactive link between the machine and their imaginations."

Trip-A-Tron costs £34.95 from Llamasoft on 0734 814478, and we should have a review of it soon.

TALK TO THE PORTABLES

Wonderful though the Amiga is, it isn't very portable – so wouldn't it be nice to hook it up to a portable like the Cambridge Computer Z88. Now you can with the Z88-Amiga link from The Music Suite.

The software can do all of the following things: archive Z88 files on Amiga disks, convert Z88 files to *Protext* and *Scribble* word processors or back in the other direction, convert Z88 files for use in *Superbase,* send Z88 printer output to parallel printers and do French and German language conversions. The software costs £19.95 and the cable to link the two machines is £12.95. More from The Music Suite, Cenarth, Newcastle Emlyn, Dyfed, Wales SA38 9JN.

FILIAL DISCOUNTS

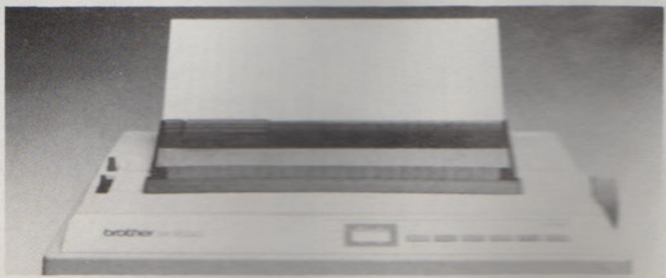
Action Computer Supplies are offering three Brother printers at reduced prices. The three models are the 1224, 1724 and the 1824.

The 1224 is a 24-pin machine that has eleven type styles, variable pitch from 5 to 20 cpi and Epson LQ-500 emulation. At 12 cpi it can do 162 cps draft and 54 cps letter quality, and it costs under £300.

The 1724 is a 132-column machine that steps the cps up to 216 draft and 60 letter quality, and also has proportional spacing, built-in tractor feed, dual interface, graphics modes and emulation for Epson LQ1000, IBM ProPrinter and Diablo 630. It sells for £529.

Fastest of the three is the 1824, an 80-column machine that can do 327 cps draft and 112 cps letter quality. It has a colour option, five resident fonts, 64K buffer, dual interface and emulation for the same machines as the 1724 as well as the Brother HR. The 1824 costs £469, with the colour-ribbon control unit costing an additional £32.50.

Additional info from Action Computer Supplies on 0800 333333.



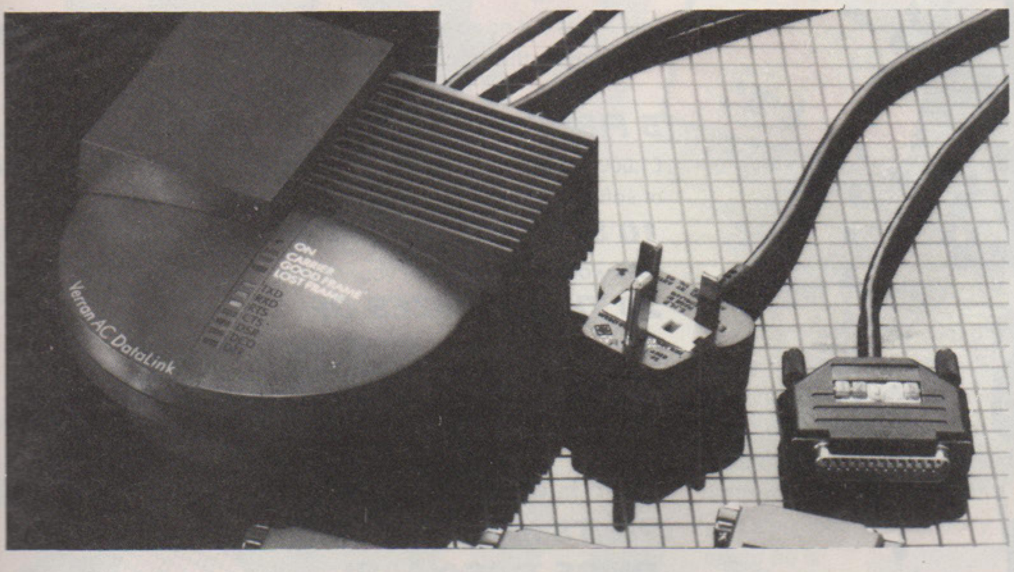
DIMINUTIVE ENTREPRENEUR

New from Hi-Tension Computer Services is *Small Business Manager,* software for keeping tabs on stock, invoices, statements and VAT. The program runs under Intuition, so it can also run at the same time as other utilities such as a database or spreadsheet. It costs £100 from Hi-Tension – more information from them on 0252 344454 or by writing to Alexander House, Station Road, Aldershot, Hants GU11 1BQ

VERRAN DO IT DOWN THE MAINS

The Verran AC Datalink is a handy new unit that allows the Amiga to be connected to other peripherals via existing electrical circuits, without having to have additional cables trailing all over the place.

The unit is basically an intelligent mains plug allowing the transmission of coded data between peripherals down mains cables. It plugs into serial or parallel ports, making possible links to printers, modems and the like. Each unit costs £175 plus VAT from Verran Electronics at Cedarwood, Chineham Business Park, Basingstoke, Hants RG24 0WD.



BAT-HAPPY

Excellent news of the Batman Pack that Commodore put together for the Amiga 500: they've shipped the lot. Demand has been so good for the bundle containing an A500, *Batman, Interceptor, New Zealand Story* and *Deluxe Paint II* that Commodore now expect to sell 100,000 of them by Christmas. With 100,000 new Amiga owners it should certainly be a great new year for all of us.

OASIS IN MALE DESERT

Oasis is the Organisation Against Sexism In Software and it has just celebrated its first birthday: seems like a good excuse for a press release. It's dedicated to the eradication of sexism in the software industry, something that is rife, possibly understandably (but not excusably) because it is so male-dominated.

The organisation is run by Sandra Vogel who produces six magazines a year and a list of recommended software, for the price of £3 membership. If you want further details send an SAE to Sandra Vogel, 3 Alden Court, Stanley Road, Wimbledon, London SW19 8RD.

VIRGIN's SANTA

FREE GAMES THIS WAY

Don't miss out on an extra special stocking this Christmas when Santa will be awarding the lucky winners with:

5 FIRST PRIZES OF

£1,000 worth of software of your choice, or an Amiga or ST plus £500 worth of software of your choice

10 SECOND PRIZES OF

£500 worth of software of your choice

20 THIRD PRIZES OF

£250 worth of software of your choice

1000 RUNNER UP PRIZES TOO!

Any one of the six Virgin Games arcade classics mentioned earlier.

MAKE SURE SANTA VISITS YOU TWICE THIS YEAR!

VIRGIN's SANTA

HERE WE GO! ....

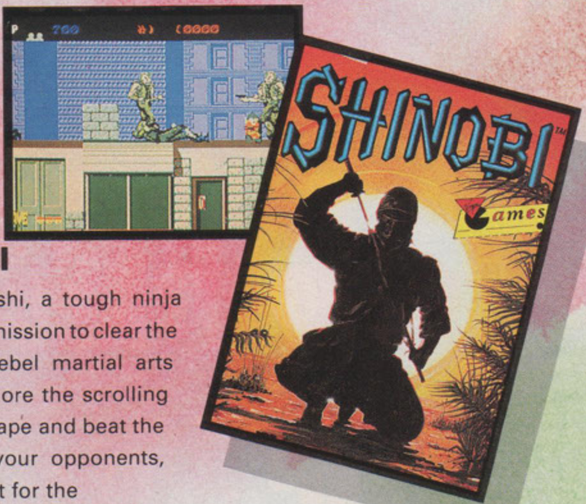
WIN £30,000 WORTH OF PRIZES

Virgin Games have decided to become a Santa and hand out £30,000 worth of fabulous goodies. All you have to do to gain from Santa's generosity is to buy any three of these games:

SHINOBI
DOUBLE DRAGON II
GEMINI WING
CONTINENTAL CIRCUS
SILKWORM
NINJA WARRIORS

Simply collect three tokens - you'll find one in each game - and send them to Virgin Games. The prize draw will take place on 29th January 1990.

discover why!



SHINOBI

You're masashi, a tough ninja warrior on a mission to clear the town from rebel martial arts fanatics. Explore the scrolling urban landscape and beat the hell out of your opponents, but watch out for the end-of-level guardians.



SILKWORM

It's not true! Even after months of negotiation with the Ruskies and despite a mass exodus out of Afghanistan, we're still under threat. There's no one left to press the Nuke button so the battle has switched to copters and plane. Non-stop shoot-'em-up arcade action.



CONTINENTAL CIRCUS

Compete in formula one races in Brazil, America, France, Monaco, Germany, Spain and Japan. Race hard, but watch out for other cars. Colliding can be fatal. And do visit the pits for fuel and repairs.

GEMINI WING

The aliens have had enough. They're not going to take their brethren being blasted on computer screen any more. So they've come down in their hordes to blast the pitiful race of carbon-based life forms called humans. Can you stop them? Somebody has to do it.



NINJA WARRIORS



Can you survive brutal enemy onslaught? Fight with hand, foot and dagger to rid the street of the scum that dare infest your home town. A classic arcade conversion.



DOUBLE DRAGON II

Ferocious two-player simultaneous martial arts mayhem. Evil fiends have captured your girlfriend - it's up to you and your brother to rescue her. Don't fail. Through the town, countryside, mountains and finally into the lair. Use whatever weapons you can find to stay alive.

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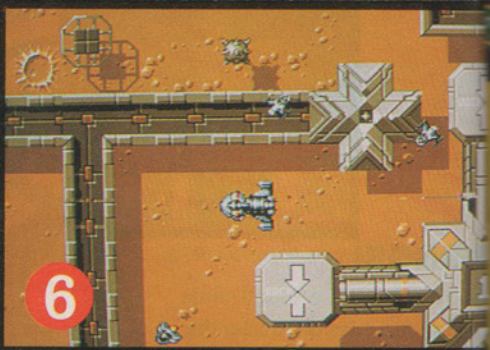
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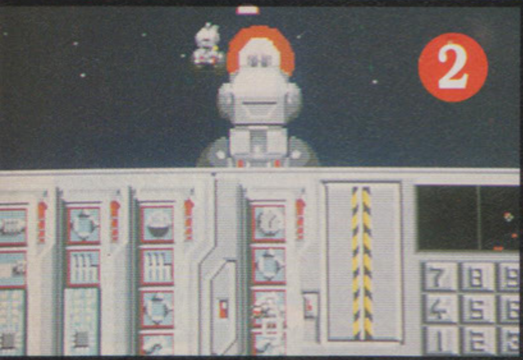
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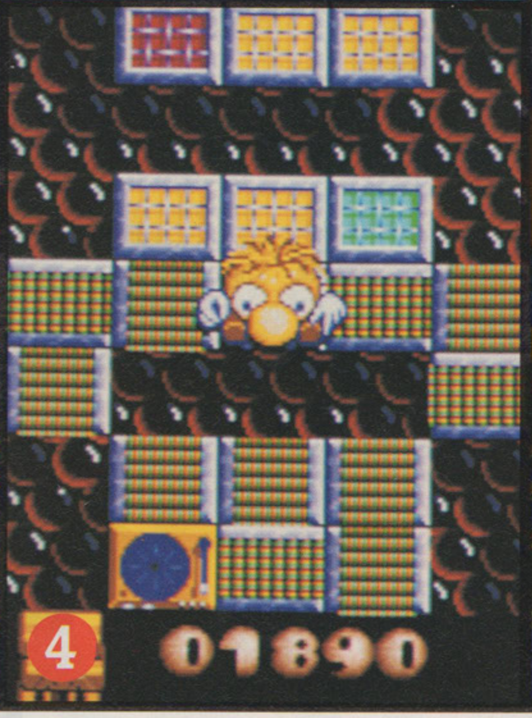
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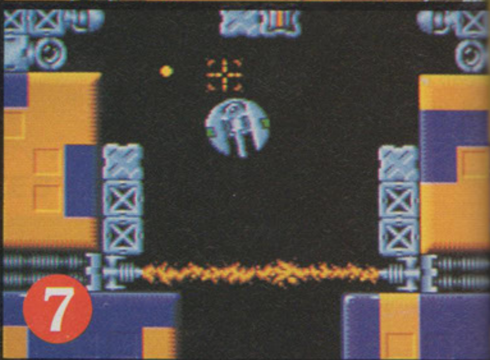
















COMING ATTRACTIONS

Tin hats on and prepare to be hit by the barrage of tomorrow's games!

1 TITUS

Biff! Bash! Blam! Bloody noses and swollen lips abound in *Wildstreets* from Titus. Set on the streets of Long Island in New York, the game places you as a hired hard man out to rescue the chief of the police who's been nabbed by the Mafia. All you've got to help you are your fists. Oh, and a friendly black panther, not afraid to get his claws stuck in during a fight.

2 Also from Titus and hailed as the first full ray-traced game is *Dark Century* (not *Dark Sentry* as stated in last month's lead feature). Four prisoners have escaped and taken control of four lunar assault vehicles: you have six fully programmable armoured vehicles which you can use to hunt down and destroy the fugitives. This one or two-player simultaneous blast is due on a shelf in your local store real soon now.

3 INFOGRAMES

Ludoelire may not be a familiar name to you and me but it certainly is to strategy board game fans. One of their biggest games *Full Metal Planet* has a massive cult following and soon it'll be available on computer. It's a massive Science Fiction adventure with plenty of scope for doing dirty deeds and getting rich quick.

4 But back to the serious business of Rock 'n' Roll, or rather the lack of it. Classical Cops and hideous monsters have taken over the world and are systematically destroying any R'n'R they can get their sweaty little mitts on. Only *Jumping Jack Son* can save the day, not just because he's the son of Jumping Jack Flash but also because he's the last true Rock and Roller.

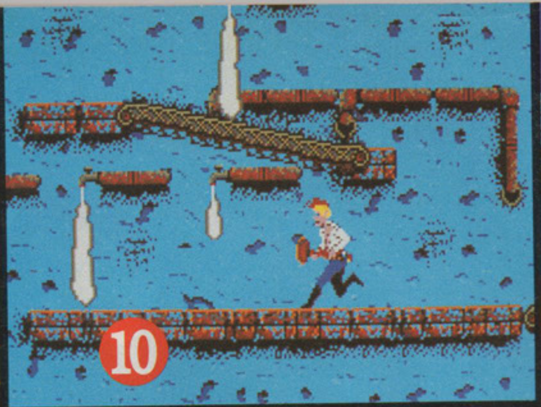
5 GAINSTAR

Travel with us back in time, back to ancient Greece. A land of beauty, myth and unspeakable evil. The Gods are trapped on Mount Olympus having lost the Keystone, their life force, and only *Herakle,* son of Zeus, can save the land by wandering through Greece and collecting the pieces of the shattered stone in this massive graphical adventure game. Hours of exploring and adventuring await anyone who reckons he or she can defeat the forces of evil and save the Gods.

6 HURIKAN

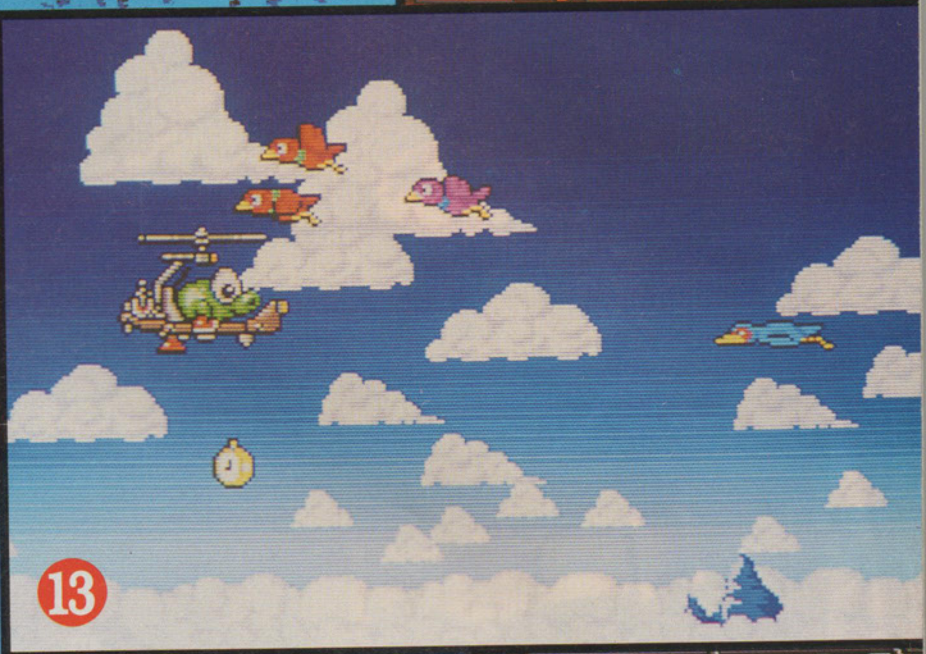
Who? It's not surprising you've never heard of them, because not only are they a brand new software house but they're a French one to boot! Their first game is to be *Vaux,* a muti-directional scrolling shoot-em-up with lots of trading as well as shooting to be done as you try to amass money on the black market and fend off the pirates and interplanetary

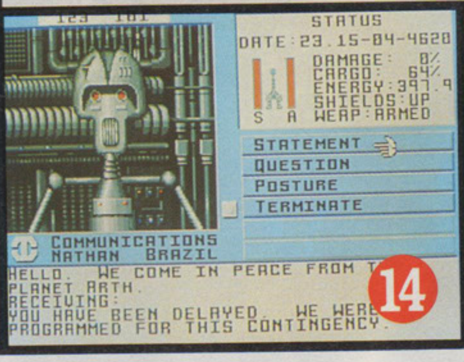


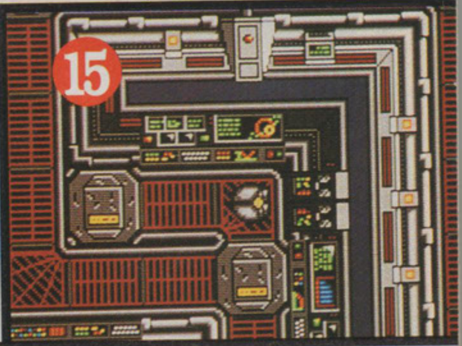












police. Let's hope Hurikan get off to a good start and keep your eyes open for the definitive review: coming soon.

7 ARCANA

After almost a year of being very quiet (don't mention *Mars Cops!*), Arcana are back on the scene with *Rotor*. This thirty-two-colour, eight-way scroller has its roots firmly in the classics *Thrust* and *Oids* (and why not? They're both brilliant games!) and includes six simulator levels and 18 real missions. If you like precise control, have great powers of concentration and can become totally absorbed in a game look out for this one. Welcome back Arcana.

8 ARTRONIC

Soldier 2000 (as first previewed in Issue 4) is coming along nicely, so here's a screenshot to whet your appetite. And staying with the shooting theme, there's also *Take 'Em Out* which features multiple weapons to choose from and innocent bystanders to avoid. (Quick question – who is attributed with saying 'there's no such thing as an innocent bystander' – if you know, write in and tell us, because we don't!)

9 ANCO

Keep holding your breath, it's almost here! As well as the *Kick Off* Expansion Disk which enhances the best footy game ever to appear on a computer, there's *Player Manager* which uses a modified version of *Kick Off* within a detailed football management game. Luvverly Jubbly.

10 COKTEL VISION

A platform and ladders with a smidgeon of beat-em-up is on its way in the shape of *No Exit*, in which the player has to undergo thirteen tests with little to help him but a hammer in order to escape the black hole he's fallen into.

11 If that's all a bit too violent for you and you'd rather be out in the fresh air on a jet sled then *Skidoo* may be the one for you. Brrr! Don't fall off, that snow looks mighty deep and cold.

12 And if that's all too exciting, then there's *Asterix and the Enchanted Stone* to look forward to. Apparently Panoramix the druid (yes, he was called Panoramix in a few adventures of the indomitable Gaul) has been knocked out and as Asterix you'll have to gather and mix the 20 ingredients that make up the magic potion. Cartoon fun for all the family, including the pets!

13 HEWSON

Pogo is back and making his way through the land of Nor in *Nebulus II*, the sequel to the excellent *Nebulus*. Sixteen towers await with loads of jumping, shooting and falling monsters to avoid and destroy. Are you a glutton for punishment? Reckon you can handle this one? Any idea why Pogo is flying a helicopter? Find out all the answers soon.

14 ELECTRONIC ARTS

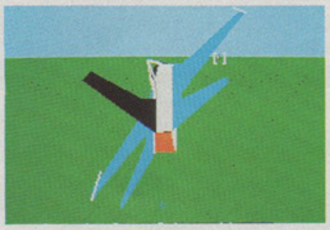
1.5 billion locations, 270 star systems and 800 planets are waiting to be explored in *Starflight*, the epic role playing adventure game from EA. Take command of a starship and choose up to six crew members from five alien races before boldly going somewhere for the first time, seeking out new things and new communities of alien life forms co-existing in a harmonious atmosphere and stopping off for a cuppa tea and a slice o' cake.

15 MICROPROSE

Things are not going great. Aliens have surrounded all human-controlled colonies in space and have taken over a communications station in *First Contact*. Only by guiding a three-part maintenance droid around the station and collecting information and useful items can the world be saved. Play this game like a fast and furious shoot-em-up or use some strategy, the fate of the world rests with you. ■


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BATMAN is a shadow in the darkness, as elusive as a dream. High above the seamy streets of GOTHAM, he is a criminal's nightmare. The only hope for a desperate city – BATMAN.
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You're at 50,000 feet. Suddenly the AMRAAM hits, snatching the joystick out of your hands, and throwing the plane into a crazy spin...



around the sharp left-hander. But in his haste the leader hasthrown his rear end. Broadside on, he blocks the track, you can't miss...



the huge Russian T-74 battle tank as it draws into full view. The turret turns towards you – they've locked onto your position, time to press the button...



and call it quits for today. Wiping the sweat from your hands, you slide the disk back into its box. It may only be a game, but you're

PLAYING FOR REAL

STEVE JARRATT ventures into the alternate reality of simulations

Way back in 1983 my first experience of a 'simulation' was with Psion's *Flight Simulator* for the Spectrum. This amounted to little more than a moving horizon with yellow ground, blue sky and a large blue blob to represent a lake far below. Still, I was amazed: here, in a friend's living room it was possible (with a little exercising of the imagination) to experience something of what it is like to actually fly a plane.

Since then, the term 'simulation' has grown to encompass more than just the yaw, pitch and roll merchants; it has become a breed all of its own, crossing the barriers of several game genres, but always serving the game-playing public's yearning for fantasy fulfillment. From the multitudinous early flight simulators, it was only a short step to simulating tanks, subs, spaceships: you name it. But considering the ease with which most people can at least take a ride in a car, off-road buggy or on a motorbike, it seems odd that the most popular style of simulations, certainly from software houses' point of view, is the two- or four-wheel racing sim.

True, the earlier games were just that – games – but lately racing programs have become so complex and realistic that to classify them simply as games seems a bit harsh. Programs like *Honda RVF, Ferrari Formula One*, and the latest product to take the *Format* office by storm, *Stunt Car Racer*, all present their 'sport' in a realistic and believable fashion.



■ Clear in the lead in the F1 Ferrari: you need to take this right-hander right on the racing line.

■ Dropping down a gear and braking, you aim for the apex of the bend: but the speed's a touch high!

■ A bit of a moment as the back end breaks away. Steer into the skid and straighten. You made it!

Quadrant Picture Library

Similarly, flight simulators – specifically the combat-oriented ones – are now incredibly complex. Indeed Mirrorsoft's *Falcon* was modified for use in a sit-down cabinet as a cheap alternative military training simulator. How real do you want it?

One avenue of simulations that remains relatively untapped is that which deals with water-borne hardware. There are only a handful of submarine sims, a couple of warship games and, to my knowledge, only one yachting simulator has ever appeared: Activision's innovative, if predictably titled, *Yachting* for the eight-bits.

What Makes you Want to Participate?

In fact the genealogy of the simulation proffers some clue as to why it is so popular in the first place. The relative lack of watersports or marine combat programs pretty much stems from the fact that they are difficult to simulate AND make interesting. From a visual point of view, a seascape isn't difficult to program, but it's very dull to watch: there's no reference of movement. Games like *Off-Shore Warrior* have to fill the water with solid objects, just so you can tell that you're moving!

And obviously most military marine hardware doesn't exactly zip along. It's probably fair to say, then, that a simulation's popularity stems as much from the realistic impression of speed and/or movement generated, as the fact that it purports to represent some high-tech hardware or that it puts you slap bang in the middle of World War III. If the simulation provides a believable sensation of flight at Mach 3, who cares what you're sitting in, when most people couldn't differentiate between the flight characteristics of an F-16 and a Phantom, anyway.

But then the lure of high-tech machinery , of wanting to 'get to grips with it', isn't an important factor either. The Harper-Ellenshaw TX500 might be the state-of-the-art in computer controlled lathes, but who the hell is going to buy a lathe simulator?

Similarly, a simulation doesn't have to include any real hands-on technology. Take Microprose's *Kennedy Approach* as an example. This aged program plops you behind a radar screen in Kennedy airport's air traffic

MOTORBIKING

Although less popular than the four-wheeled racing games, action has consistently held a strong appeal. The tendency for an arcade-style presentation is often outweighed by the swift and realistic representation of the racetrack and the bike's handling...



SUPER HANG-ON Electric Dreams 1988
Very much in the arcade mould, but still one of the best impressions of speed to be had.



HONDA RVF MicroProse 1989
Adapted by MicroProse into a full sim approach after a unique deal with Honda.



ENDURO RACER Electric Dreams 1986
Again in the arcade mould, but this time in an off-road dirt-bike scenario. Well received.



THE TROUBLE WITH SPRITES: Nearly all driving games attempt to give a real impression of speed as you charge round the racetrack by throwing large sprites around the screen very quickly. While this does give the feeling of the road and scenery rushing towards you, it is more suited to the arcade games (bottom row of pictures). The serious simulations (top row of pictures) have tended to use the same approach with a more elegantly-drawn background: but a new approach has been pioneered by Geoff Crammond in the 3D realism of *Stunt Car Racer*. Geoff's latest is blessed with all the realism of his top-notch race game *Revs*.

control centre. On the face of it, being stuck behind a green screen directing air traffic for an hour or two doesn't really excite to a great extent. There's no real hardware or even forward movement involved, but sampled speech and a realistic ATC environment was enough to set the pulse racing as you constantly faced the imminent demise of several aircraft and their occupants. In this case the strength of the simulation was in the experience: catapulted into a high pressure situation there was challenge a-plenty, attempting to avoid the deaths of hundreds of airborne holidaymakers.

But the choice of experience is also important: a couple of years' ago I was fortunate enough to have the opportunity of 'flying' one of Heathrow's pilot training centre 737 simulators, practicing landing procedure. Now, even though this particular model was getting a bit long in the tooth, it was no slouch. And while great pains were made to produce an experience as authentic and believable as possible, it's not really what you can describe as fun. Given the option of 'playing' with one of these beasts, or indulging in some mindless *Interceptor* dogfighting for an evening, it would be a very close call. The distinction that can be made between civil and military sims and those on home computers is that the former are for strict instruction purposes, while the latter primarily exist for their entertainment value.

But how does a combat simulator pose as entertainment? Natural human aggression is a strong factor in the enjoyment (?) gleaned form a good session on a combat-style simulator: how often have you had that strange feeling of euphoria when you've just wasted some particularly evasive enemy craft, or successfully creamed a foreign base while under heavy attack?

Of course, a great deal of simulations have no combat whatsoever, but they do offer the next best thing – the chance to win. The sensation of victory is fairly non-specific – the opponent has been vanquished, either by virtue of position or death, it matters not. However, in its most basic form, the combat/competition element is present to pose some sort of ▶



THE CYCLES Accolade 1990
First preview of new bike sim: expect first person perspective, high degree of realism.

THE UNUSUAL!

Although the term 'simulation' is usually associated with 3D graphics and large military hardware, there are a number of intelligent simulations of rather unusual things. Some are from the future and might never exist, some are simply very unexpected...



WATERLOO PSS 1989
The perspective is from the General's eyes: the battlefield realism is very unusual.



SIM CITY Infogrames 1989
As Mayor, control the building of a city. The citizens are invisible, but react as if real.



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X-OUT
From the farthest reaches of outer space, they came to inhabit the depths of our oceans. From their savage assaults on a defenceless human race, grew a planet's last desperate crusade – project Deep Star, the ultimate underwater war machine. Early encounters proved catastrophically ineffective, however a few kept faith, all the time improving Deep Star, the greatest collection of man's technical wizardry, committed to the hands of a lone gladiator for one final attempt at halting the inevitable – the frantic death throes of a civilisation sinking into darkness.
That gladiator's battle cry ... take no prisoners, give no quarter, make no compromise.
• Strategic underwater action. • Over 50 simultaneous 'on screen' objects. • 48 colour graphics. • 50 pics per second scrolling*. • 8 levels each 160 screens. • 40 different aliens. • Multi graphics styles incl. lava, fire, crystal. • "Buy and sell" over 25 multi functional extra weapons. • Free style configuring of weapons and satellites.
65 Sketty Close, Brackmills Business Park, Northampton NN4 0PL.
Screen shots from Amiga version.

challenge to the participant. Just how long do you think you would keep flying your F-16 if there was nothing to do but practise landing procedure or low level flight, just like the real thing? The combat element is purely representational, but provides a continual series of challenges which the participant can associate with.

Without some sort of task to fulfil, a simulation proffers very little in the way of lasting interest. For instance, in *Flight Simulator II*, the greatest challenge posed is in learning the correct method of flying the plane and keeping the thing in the air. However, once this has been mastered, there is little else to do apart form watch the scenery go by. Within a few days, you've soon switched to the jet and have started making your own danger: buzzing the Statue of Liberty, or flying between the twin towers of the World Trade Centre!

That, then, is another factor: the risk. Very few simulations bother reproducing situations in which there is no perceived danger. Without it, there can be no real excitement: and you gotta get the adrenalin flowing!

Microprose take the right stance with their motto: "The action is simulated, the excitement is real". It's all about fulfilling fantasies, and the beauty of simulations is that they can bring to people a chance of trying their hand at something which, in reality, they would never be able to do. Preferably something exciting, and therefore dangerous. In fact, the more dangerous it is, the better.



■ The rear wheels slip as you pursue a Metro 6R4...

■ ...but you squeeze past and charge for the finish.

Quadrant Picture Library

You can also heighten the risk by raising the stakes: incur some personal loss with failure, and you have an emotional as well as sensational experience. *Gunship* allows you to build up a character, RPG-style, complete with a service history and medals to show for it. But whenever you blow a mission, your prize pilot dies – for good.

With simulators in general, the risk is usually present in the chance of death or a lost race (which to the more competitive amounts to the same thing). Great liberties are taken with the arcade-style simulations, for one crash at high speed is enough to write off any real vehicle. However, the response of someone who has just wrapped their *Out Run* Ferrari around a tree is enough to show that it Does Matter: that crash, though not fatal or even the slightest bit injurious, often means the difference between qualifying for the next stage – and having to start all over again. And if you could complete the *Out Run* course every time without a problem, you wouldn't play it, even though it continued to simulate a high-speed drive through twisting roadways.

The ultimate extension of this comes in the shape of direct head-to-head competition, offered by an increasing amount of race games, using a datalink between machines. Not only does it emphasise the emotional highs and lows of competition (it's more fun thrashing your mate than a bunch of dumb pixels), but it also adds the thrill of competing against some (presumably) intelligent opposition, who is sneaky and unpredictable.

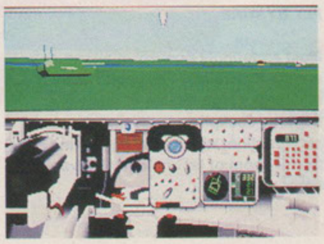
Of course, having decided that popular simulations rely on the sensation of speed and movement, and offer challenge and danger, there's always the annoying exception. The one that springs to mind is Hewson's *Southern Belle* – a railway sim which put you on the footplate of the eponymous engine, with little else to do but drive said loco along a specific route. With appalling graphics and an excitement level that makes a damp squib grin with pride, it was a program that your average gamer wouldn't look at once, let alone twice. But it sold well enough to prompt a sequel, *Northern Star*. Still, steam engines are surrounded by a mystique and



INTERPHASE Mirrorsoft 1989
Although set inside a computer, the sense of reality is conveyed by swift filled 3D.

ARMS LIMITATIONS

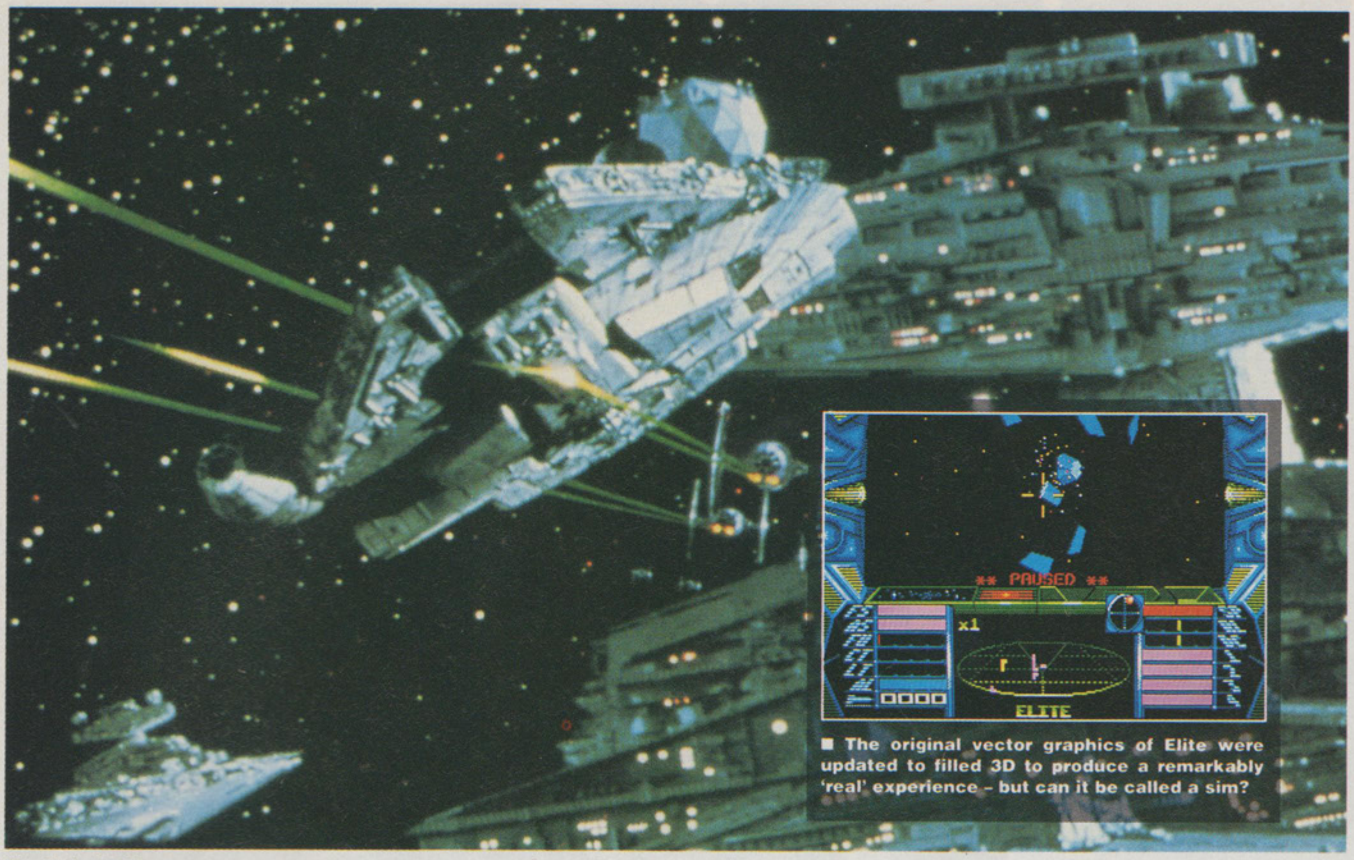
Whatever the attractions of hi-tech military hardware, you wouldn't imagine that a trundling tank or a low-speed helicopter would make for an exciting sim. But look out for at least five new tank sims over the next year, to join several from the past...



M1 TANK PLATOON Microprose 1990
Currently only on the PC, this full 3D tank sim puts the US workhorse in your hands.



CONQUEROR Superior 1988
The 3D routines of Zarch gave this remarkable tank game a fabulous 'real' world.



■ The original vector graphics of Elite were updated to filled 3D to produce a remarkably 'real' experience – but can it be called a sim?

The Kobal Collection

law all of their own – I wouldn't be surprised to see a train spotting simulation sell in reasonable amounts...

What is a Sim?

The distinction between simulation and strategy, with respect to computer games, can be best described as a matter of scale. Take for example a tank combat simulation which follows the progress of a single tank as a pawn in a bigger game. With a little switching around, the player can also attempt to control a corps of tanks, again within a larger scheme of things. But once the scale escalates beyond the individual or small group of individuals, it ceases to fall into the pigeonhole of 'simulation' and begins to encroach upon the well-worn ground of the strategist. The commander of several tank regiments still effectively has overall control of each vehicle, but is more concerned with the far-reaching aspects of the battle, than with the actions of a single tank.

The distinction becomes blurred, though, with wargaming programs like *Borodino* and *Waterloo*, which provide a realistic hilltop view of the battlefield, running in close to real time. Effectively, this fulfills the criteria for a simulation, since the player must think and react as would a general on the battlefield. The experience of being in command of the battle, is as 'real' as being in control of a tank.

Generalising, a simulation can be thought of as an individual personal experience: the 'player' is still a strategist, but thinks and decides in real time rather than in 'turns' or with some alternative time scale.

In its most basic form, a simulation describes a realistic, or potentially realistic situation in a believable environment where the participant is free – within the constraints of the equipment being simulated – to alter his or her own fate. Most simulations are therefore based on real-life possibilities so that you are given some point of reference – even space epics like *Elite* and *Starglider II* transpose the player into a scenario which is logical and 'makes sense'.

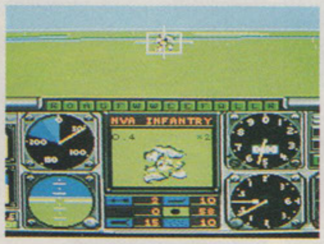
Realism is the key factor in any simulation. If a simulator feels 'real' then its doing its job; and the more realistic it feels – irrespective of how mathematically accurate it actually is – then the more likely you are to be absorbed into the proceedings. A surreal game like *Interphase* can present its world in such a believable fashion that you have little choice but to accept it.

For any simulation to be successful – with respect its function, rather then in sales terms – it must make the user believe in the experience. And in the case of home computers, with little or no chance of someone marketing a hydraulically-operated plug-in cabinet, it's left to graphics and sound to carry the whole thing off.

Graphics

Most, if not all, simulated scenes are shown from a first person perspective. This creates an immediately personal viewpoint which supplants your own field of vision and places you right in the middle of the action – everything happens as if seen as if through your eyes. An external viewpoint might present a more impressive panorama of the action, but you lose some of the urgency from the experience. You merely become a third party, controlling the action but not actually taking part – like flying a radio controlled plane. Imagine playing *Virus* from inside the ship...

Many racing games place the viewer slightly behind the craft they control, but the overall scene is still pretty much as you would expect to see it from the competitor's point of view. Use an overhead view of the race, and people just don't want to know: you totally lose that



GUNSHIP Microprose 1989
Reproduces the awkward control system of a helicopter with amazing accuracy.

FLY BY WIRE

Most enduringly popular of all simulators are the flight sims. The public has come to expect a high degree of realism in both the cockpit controls and the visual presentation, which puts flight sims at the forefront of technological advance on home computers.



HELLCAT ACE Microprose 1983
A piece of history: MicroProse's first ever flight sim, running on an Atari 8-bit machine.



CHUCK YEAGER Electronic Arts 1987
Another oldie, praised by civil pilots for its portrayal of light aircraft like the Cessna.

personal sensation of involvement. Let's face it, graphics are the vital visual stimulus that enable you to relate to the situation. And in this respect, the effective portrayal of speed and movement is of paramount importance if the simulation is to succeed. That's why there's almost always an horizon in a simulation: it's one of the single most powerful reference points – if the horizon's moving, you know that something is seriously wrong!

In much the same way that film of a rollercoaster can have you lurching around in your seat, so the simulated viewpoint should produce some physical response, like that odd bristling sensation when you know that you're about to hit the deck at several hundred miles an hour... Good examples are *Interceptor*, *Enduro Racer* and *Stunt Car Racer*, which manage to produce that peculiar stomach-churning sensation which other sims seem unable to generate.

To reproduce a realistic visual environment, simulations either have to create an entire world, or reproduce just that part of the scenery that will be visible. The former group is the free-roaming sims that use filled 3D vector graphics to generate the graphics (*Starglider II, Stunt Car Racer*, flight sims in general) while the latter generally uses sprite frame update to generate fast forward movement (*Hang On, Power Drift, Honda RVF etc*).

It's also down to graphics to help generate the right atmosphere. Smart intermediate screens (like the weapon selection screens from *F-16*, or the menu sheets from *Gunship*) can also help the player get into the groove right from the start – if the simulation is taking things seriously, then so should you.



■ Banking sharply in a 180 degree turn, you pursue a couple of the enemy MIGs.

■ Pursuing one, you get a missile fix to kill, just as a wingmate speeds past.

TRH Pictures

Sound is also hugely important, providing an almost subconscious strengthening of the visuals. Conversely, poor sound effects can ruin the illusion – the naff helicopter sound of *Gunship* and shrill motorbike effect from *Honda RVF* are prime examples.

The Amiga is extremely well hung in the sound department, with simultaneous stereo broadcasts accompanying the action. The advent of sampled or synthesised sound effects, dopplerised and in true holographic stereo, can do just as much to put you 'there' as can thousands of polygons per second, and the first program to make show real promise in this area was *Starglider II*, which offered depth-cued stereo sound effects for the first time.

Given that graphics and sound are the simulation's only voice to the outside world, humans are lucky in having a brain that is easily fooled. The old grey matter works hard to make sense of what it sees and persistence of imagination can do a lot for a simulation. Old C64 owners – myself included – still got a kick out of *F15 Strike Eagle*, even though the graphics were little more than ground/sky/stick plane, and the frame update, well, didn't. After a while, you become attuned to the visuals and start filling in the missing parts: the planes become real opponents, that triangle really is an enemy base, and so on.

Of course, its always nicer to have it all done for you, and at the other end of the spectrum (and somewhat ironically) *Strike Eagle II* boasts the most realistic graphics of any flight simulation to date. Available only on PC at the moment, the Amiga version will hopefully include some degree of the depth-cued graphics of the VGA version, which are stunning to say the least.

You don't need amazing graphics – but they certainly don't hurt any.

Into the Future

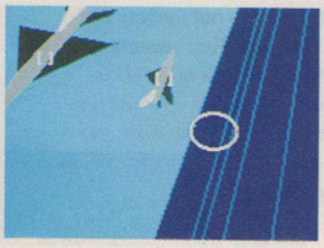
The difference between Psion's *Flight Simulator* for the Spectrum and 'state-of-the-art' programs like *Falcon* and *F-16* isn't as great as you would imagine. The apparent sophistication of these simulations is all due the hardware available: Speccy owners can still get *F-16* for their machine!



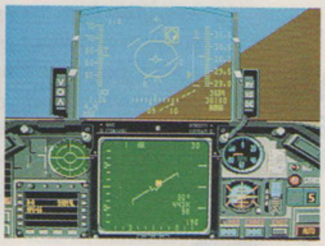
INTERCEPTOR Electronic Arts 1987
One of the earliest Amiga flight sims, and still believed by many to be the best.



BATTLEHAWKS 1942 US Gold 1989
Dogfighting WW II stuff, soon to be followed by Battle of Britain version *Their Finest Hour.*



JET SubLogic 1988
F-16 and F-18 sim to join SubLogic's previous successes, the *Flight Simulator* series.



FALCON Spectrum Holobyte 1988
Another F-16 sim, also thought by many to be the best, now backed by extra missions.



There is a limit to how far simulations can go in their current form, though, and the limiting factor is hardware. Microprose couldn't find a home computer powerful enough to run the game that they wanted to design, so they started developing their own. It's probable that the final unit will appear as a coin-op, and the possibility of a fully moving cabinet still hasn't been completely ruled out.

But if Microprose – the simulation company – have already progressed past the 16-bit mark, then what can we expect in the future? Certainly the arcade is the place to watch out for major advances in graphics and physical effects. But unfortunately, the days of home-based moveable chairs (despite what Konix would have you believe) is still some way off. Also, the cyberpunk wet dream of simstim units which directly stimulate the sensory centres of the brain – as a legal, marketable device – is probably stuff of the next century.

Maybe saviour of the simulation will come with the CD-ROM revolution – if it ever happens. Photo-realistic views of the outside world, with true stereo soundtracks and maybe even stereo vision. Maybe. ■

ARCADE STIMULATIONS



■ Taito's unique, but not too popular, *Airline* cabinet.

It was recently stated that there are very few new breakthroughs being made on the graphics side of civil simulations, and if you want to see where the state-of-the-art is, take a look in the arcades. Most recent coin-ops have simply been high-powered graphics engines, but the advent of the hydraulically operated cabinets has thrown a whole new light on the path forward.

The medium's two greatest ground breakers, Sega and Atari, prefer to use the two graphic methods described above to provide the necessary visuals: Atari's *Hard Drivin'* boasts some spectacular filled vector graphics to produce views of a race track and surroundings, while Sega take a different approach, using many Megs of rapidly-drawn sprites to give the impression of forward movement. Not only this, but Sega is very keen on enforcing the effect by moving cabinets plus feedback through a vibrating joystick/steering wheel. Sega's latest product, *Super Monaco GP*, is about as close as you can get to driving a Formula 1 racing car around the Monaco course without actually doing it.

Continental Circus provided food for thought with its stereo view of the track using LCD glasses. Hopefully, the coin-op was successful enough to warrant further examination of stereo visuals.

The arcades do occasionally throw up some strange products like Taito's *Airline*, which really did present itself as a true simulator, putting the slightly bemused arcade-goer in the pilot's seat of an airliner coming in to land. Within its completely enclosed cabinet the screen display bore a striking resemblance to the 'real' BA 737 sim mentioned earlier, but offered little more than simplified landing procedure. No threat, little challenge and grossly expensive – it found little more than an inquisitive audience.

But the fact that Taito were prepared to try out something as innovative as this can only bode well for the future. Certainly most coin-op producers are at the leading edge of entertainment technology and it looks as if the way forward for many of them is to a 'full' simulated experience. ■



■ The arcade steering wheel is a familiar sight.



■ Full handle bar grips give the real feel to *Super Hang-On.*



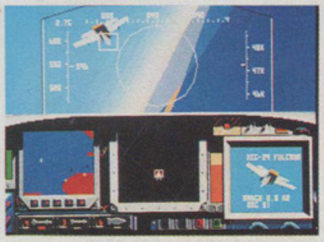
F-19 STEALTH FIGHTER Microprose 1989
PC simulation of the top-secret US Stealth project, which second-guessed the USAF.



F-16 COMBAT PILOT Digital Integration
Tipped by an RAF pilot visitor to the *Format* offices as the most realistic flight sim out.



BOMBER Activision 1990
Some very zippy 3D routines should turn this from a good demo to a great game.



F-15 STRIKE EAGLE II MicroProse 1990
Currently on PC, the stunning depth-cued graphics promise to take this one to the top.

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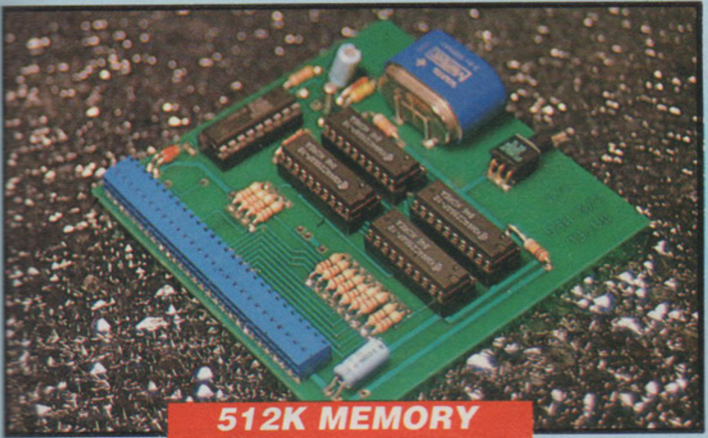


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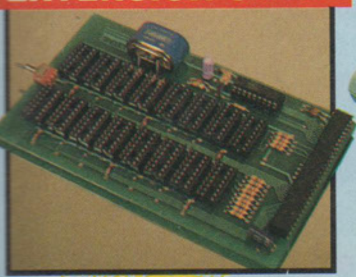


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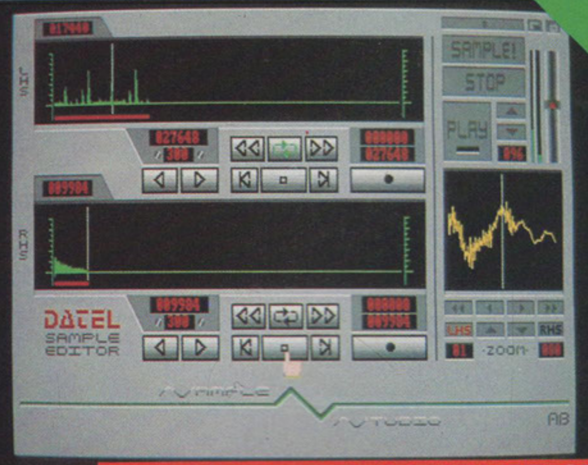
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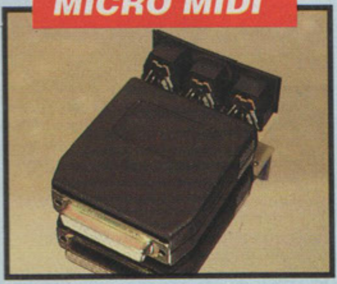
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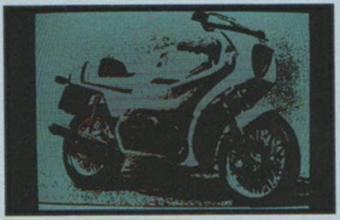


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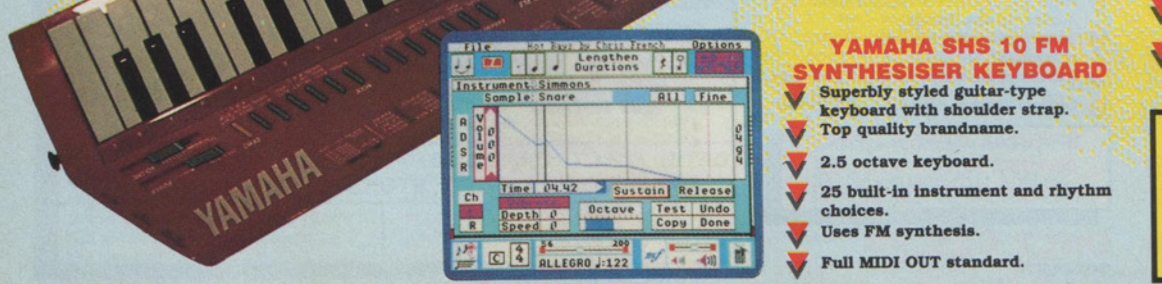
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THE ART OF LINE

The use of line is one of the most important artistic concepts. **BRIAN LARKMAN** explains the rules...

Although many readers of *Amiga Format* are skilled artists – the Amiga has always attracted artists and designers – there are many Amiga users who have little artistic skill, and certainly no formal design training.

For many of these people, most how-to-do-it tutorials in computer magazines and books miss the basic point: how to START making marks using very basic techniques such as line, shape, form, colour, pattern and texture. These concepts make up the foundation of a professional designer's visual vocabulary. There is nothing secret or mystical about them but they should be understood if good computer art is what you want to produce.

The aim of this new tutorial series is to give the novice computer graphic artist a good grounding, starting at a very basic level, but providing plenty of background information so as to be interesting to skilled as well as unskilled designers.

DEFINING TERMS

Intro to Techniques

Rubber it Out

The first trick of computer graphics – the one that sets digital drawing apart from all other kinds right from the word go – is Rubber-Banding. On paper, when a line is drawn, the only way to change it is to rub it out or reach for another sheet and start again. On screen, each line can be adjusted to your heart's content by fixing one end and stretching the other to the perfect position, almost exactly like a rubber-band.

A simple process, taken for granted after the first ten minutes at the computer, but immensely powerful for all that. The process does not end there, either. Using Vector Graphics, for example, the position of both ends of the line as well as its thickness, colour and even pattern can be changed at any time to suit your needs.

In this first elementary tutorial we will examine the nature of computer generated LINE: how it is produced, how to improve it and apply it to the greatest advantage, how to take short-cuts: how to really USE it to the full.

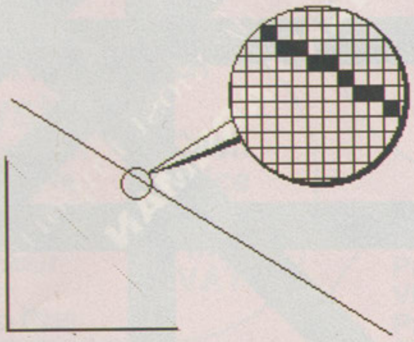
Juggling the Jaggies

Smooth lines are almost impossible to display on a computer screen. Because of the way a monitor works, only exactly vertical and horizontal straight lines can be drawn without steps or kinks.

To follow this idea, it might be best if you work alongside the tutorial, drawing the illustrations yourself. (For each of the following descriptions the software used is *Deluxe Paint II* in Lo-res mode using the default palette as a starting point. But of course you can use any screen-painting system you are familiar with)

Boot up the program and set the Background colour to white and the Foreground to black. Select the single pixel/straight line tool and then simply drag a line from top left to bottom right.

Look closely: zoom in if you like. Compare what you got with "THE JAGGIES". What we intended was a thin straight line with smooth sides, but what we got was a series of horizontal lines of varying length, joined corner to corner. The enlarged view shows that the screen display is obviously a digital mosaic of small square 'tiles'. The apparent smoothness of any line therefore depends on the size of the tiles or PIXELS and the angle of the line.



The Jaggies

In a line drawn exactly horizontally or vertically, the pixels lie side by side, so a line is perfectly smooth: but in one drawn at 45 degrees, they join corner to corner, so except at very low resolution the line looks reasonably smooth. You can see this from the triangle in the corner. (Draw one yourself and magnify that as well.)

At most other angles a greater or lesser degree of 'stepping' or 'staircasing' takes place giving a jagged line. This stepped effect is known as aliasing and is present to some degree on even the most expensive computer systems. (Try using the freeze-frame of your VCR on the computer-generated opening credits of some TV program and you should see stepping effects, especially on curved edges.)

There are a number of ways in which this problem can be overcome or reduced.

Increased Resolution

A normal Amiga monitor (1081 or 1084) can display up to 600 horizontal and perhaps 700 vertical lines (about 75 dots per inch: 75 dpi). Even at this maximum, stepping is clearly visible on diagonal or curved lines. Indeed, even using 1008 x 1008 line monitors the jaggies are still a problem when a single-colour line is against a contrasting background.

The power of the human eye to resolve irregularities is so great that a resolution of at least 4000 x 4000 is required to give apparently smooth lines. The price of this resolving power is in the order of tens or even hundreds of thousands of pounds, a bit beyond the average Amiga user. Another, cheaper method must be found.

Anti-Aliasing

Although the human eye can detect very fine surface irregularities, it conversely blends together irregularities of colour, perceiving them as smooth transitions. This blending characteristic – shown in the picture "ANTI- ALIASING" – can be used to hide a jagged surface by averaging the contrasting colours along an edge and placing a pixel of the average colour at the base of each step.

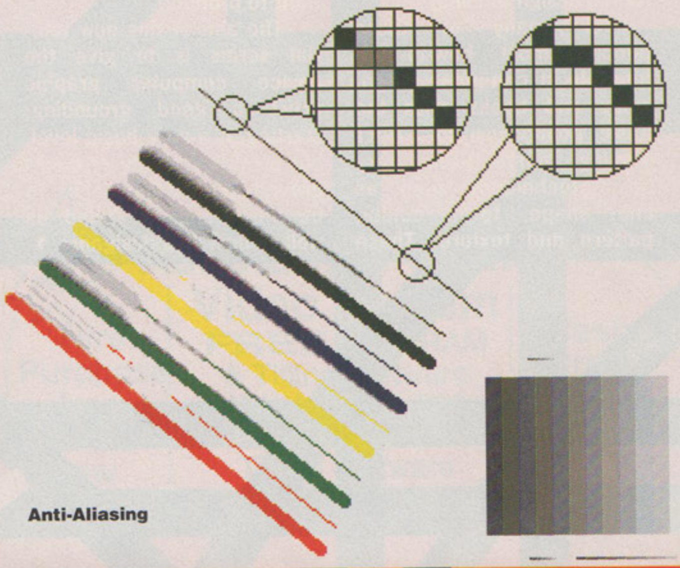
Once again this is best shown if you do the illustration. Using several standard brush sizes and 3 or 4 contrasting colours plus black, draw a series of straight parallel lines from top left to bottom right of the screen. Select the Freehand drawing tool and a mid-grey tone (about four squares up the right-hand column). Move the pointer to the middle of the single pixel black line and press "m" on the keyboard. This area should now be quite visibly magnified.

Place one grey pixel on the corner of each of the two-pixel steps, as shown in the picture. In the normal view it should now be obvious that the stepping effect has almost disappeared – ANTI-ALIASED by the average grey tone – but the line seems slightly blurred. If this is not the case try using a paler or darker grey.

Auto Antialiasing

Deluxe Paint II provides an automatic anti-aliasing effect called Smoothing. Select the largest standard brush and the straight line tool. Activate the Smoothing mode from the Modes menu and drag a line over part of each of the coloured lines you drew on screen. In most cases the jagged edges are now softer but the lines are all quite blurred. The thinnest lines will probably have either disappeared or become much paler.

Try the same experiment again using the one-pixel brush and dragging the smoothing line



Anti-Aliasing

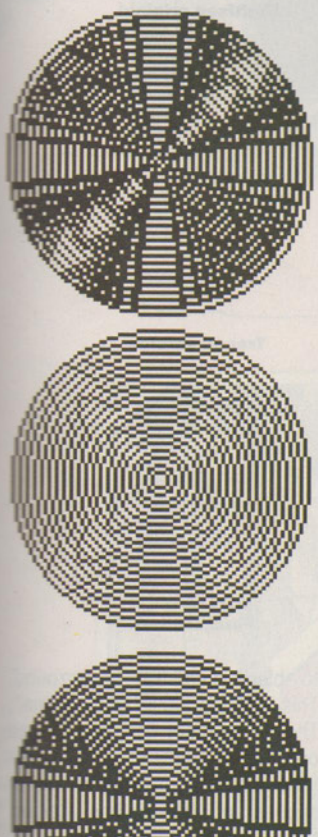
along just adjacent to the original lines. This time the edge is smoothed slightly less effectively, but the blurring effect is much less noticable because the band of pixels across which the colour transition takes place is narrower.

Automatic anti-aliasing in *Deluxe Paint* can be carefully controlled by selecting a brush size that is a balance between the amount of blurring you are prepared to tolerate and the effectiveness of the smoothing you want. Thin lines can retain their original colour by avoiding overlap of the original with the smoothing line.

Palette Problems

Another problem can occur if there is not a suitable range of colours in the palette. Effective anti-aliasing of an edge or line set against a contrasting background colour only takes place if several intermediate colours are available. The standard

Moire Patterns



'default' palette illustrates this blending effect perfectly.

Make one of your initial thick lines bright blue (0,0,15). With the standard colours, smoothing uses purple (8,0,15) for the transition which leaves a bright rim along the edge. If the colour above bright blue in the column is changed to a paler blue (8,8,15), the smoothing is much more effective as can be seen on the lower edge of the wide blue band in our picture. Again, try it yourself. Careful selection of palettes can make many operations much easier in *Deluxe Paint*. A tutorial concerned solely with colour will be featured in a future issue of *Amiga Format*.

Using It

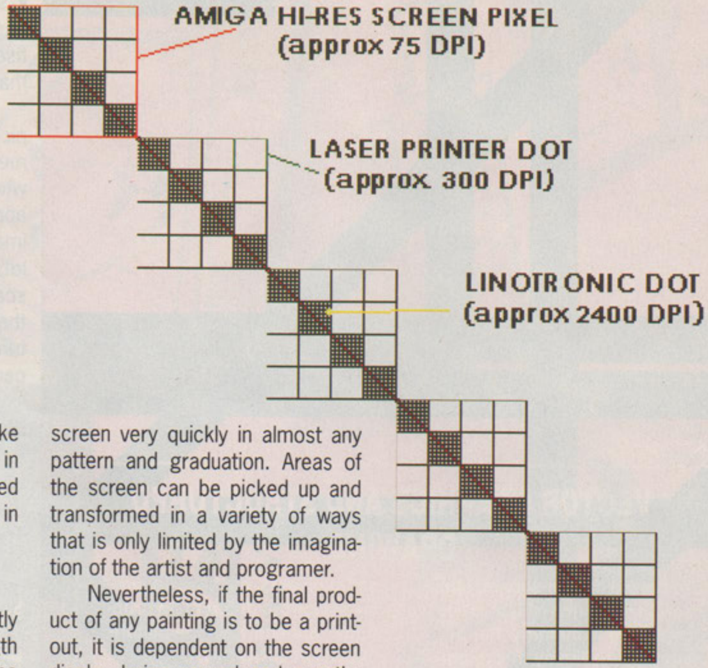
Stepping effects can vary greatly depending on the angle and length of a line. Experiment with a series of single-pixel lines drawn so as to radiate from one origin, similar to those in the "MOIRE PATTERNS" picture. It soon becomes obvious that slight adjustments to the lines can result in a complete change in the nature of their stepping. If you are unable to smooth the edges of your pictures for some reason, try to adjust the lines to suit the subject you are working on. Regular, mechanical objects may suit a regular step whereas irregular, organic objects may even be enhanced with a jagged outline.

If you are working with patterns of regular lines, alias steps on adjacent edges may align to form a secondary pattern. This effect is known as a 'Moire' pattern. It can be exaggerated or produced deliberately by picking up one pattern as a brush and superimposing the copy over the original slightly offset. This technique provides endless scope for experiment as suggested in the picture "MOIRE PATTERNS".

Vectors for Victory

Up to this point we have been specifically concerned with the screen display of our artwork. This may be a red herring.

In some ways the bitmapped "screen painting" method is very limited. It is certainly easy to use: colour can be sloshed onto the



screen very quickly in almost any pattern and graduation. Areas of the screen can be picked up and transformed in a variety of ways that is only limited by the imagination of the artist and programer.

Nevertheless, if the final product of any painting is to be a printout, it is dependent on the screen display being reproduced exactly, regardless of the resolution capability of the printer. A dramatic comparison of the various dot sizes of printers with a high resolution Amiga pixel is shown in the picture "PRINTER RESOLUTIONS". It illustrates the wasted capability of printing a bitmapped picture on a laser printer.

The wide availability of these high resolution printers, and the growing use of pen plotters, has encouraged the development of software optimised for output, using structured rather than bitmap drawing techniques. Using a "vector" based method of drawing, (see the side box for a full description of vector graphic techniques) the display resolution is irrelevant to the final products because a line is defined by its endpoints and an instruction to "draw a line between these points". The line is drawn at the maximum resolution available.

If you magnify the screen, each line is still drawn as finely as possible (unless it has a defined thickness). Similarly, when a vector drawn picture is printed or plotted, the instructions are acted upon by the output device at the max resolution it is capable of.

TUTORIAL

Drawing With Line

On a sophisticated computer like the Amiga, with state-of-the-art software such as *Deluxe Paint* or *DigiPaint*, it might seem uneccessary to use much in the way of line drawing. Transparent graduated fills, tints, texture mapping and wrapping, all these fancy gimmicks hide the fact that when starting from scratch, a well constructed line drawing is essential.

Often the fancy fills can hide important detail, especially if the drawing is a detailed diagram. Similarly, if you are working from full colour artwork, it is not always appropriate to use the original picture. There may be problems with copyright or you may only want a two-colour line drawing for DTP purposes.

What all this boils down to is 'Tracing'. Or to use the technical term, 'Cheating'. If you are not very good at drawing with a mouse – and most of us have problems drawing with an implement that is about as sensitive as a bar of ►



soap – tracing from photos is an easy shortcut. (Using a digitiser is even easier but beyond many people's means.)

Collect together a range of pictures from colour supplements, postcards, magazines or wherever and put together an approximate collage of the final image. Remember that there are lots of tools in *Deluxe Paint* for scaling, mirroring and distorting the outline drawing so if the pictures are not exactly right you can change them later.

The tracing 'paper' needs to be completely transparent. Some form of clear acetate such as overhead projector transparencies are most suitable. They can usually be obtained from a good model-making or stationery shop. A fine-nibbed waterproof or permanent felt-tip or rollerball pen is also required. Red or green are better than black, so that the lines you draw on screen will show through.

Trace the image carefully, following all 'limbs' of the object, not just around the edge: but do not be tempted by too much detail. If there are definite colour changes consider tracing those too. If colours change gradually try to pick out a line that divides them. The final tracing should look like 'painting-by-numbers'.

One great advantage of thin acetate is that it should stick to the monitor screen by static alone. Position the tracing on screen in the correct orientation. If static is not enough use 'blue-tac' or masking tape.

The copy is made using rubber-banded lines, or polygons, or for circles and ellipses, the suitable tool. It is usually best to select an off-white screen and a distinctive line colour (different from the tracing pen). Starting at the top and working down follow the shape of the traced lines with short rubber-banded lines. With a little practice it is possible to produce a very good copy, even with quite tight curves. You may find it easier to line things up if you keep one eye closed.

The final copy should look something like the hand outline in the picture "TRACING" above. SAVE IT IMMEDIATELY. There will be lots of gaps and wrong lines but these can be corrected with 'magnify'. The fine details can be added at this stage. If the picture is to remain as just an outline, look carefully at the original. A line drawing gains an immense amount of character from the type of line you use – thick thin, tapered, dotted. As it is not going to be filled, the edges can be broken in some places and thicker in others, but it is difficult for the novice to know which should be which.

A simple rule of thumb is to judge the thickness of a line by the contrast between the areas on either side of it on the original. In other words, if the edge stands out against its background draw it thicker than edges which seem to blend into the background. This is called a "hierarchy of line". The same effect can be achieved on images that ARE going to be filled by using paler and darker shades of the outline colour: three or four different greys for instance.

If you have to use freehand lines – to add missing detail, to redraw an element of the picture that is not quite right, to include an object that you can find no reference for, to copy from life – remember that even simple curved lines can express a lot about movement and flow. An animal like a bird or fish, a human limb, hair, clothing, the lines of a car, the growth of a tree, all these and more can be captured by just a few lines. ■



Digitised original



Traced version

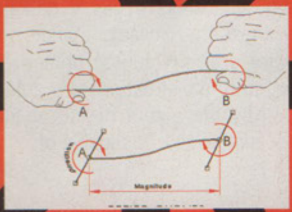


Final outline

VECTOR GRAPHICS AND STRUCTURED DRAWING

To draw a line on screen, some sort of definition of it must be contained in memory. For a bitmapped display this might just be a series of pixels set to the foreground colour, mapped into a total array of pixels in the background colour.

A more versatile and economical method is to define the position of the two endpoints and include some instruction that means "draw a straight line between these points". If one point is defined as being at a certain distance and direction from the other, the object is known as a VECTOR: in other words a "quantity having dirction and magnitude".



Bezier Curves

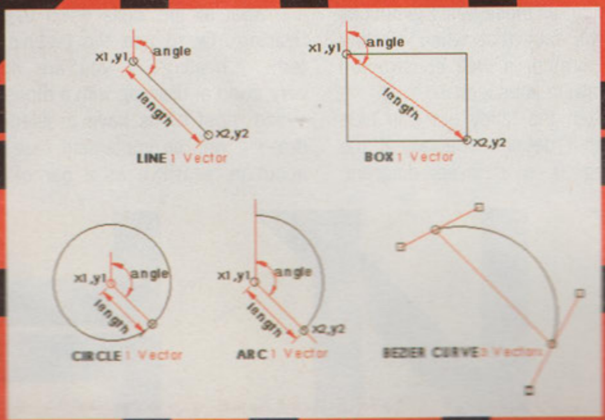
With the addition of the instruction, almost any shape can be defined, not just a line. For example, if the instruction says that the two points define a radius, then a circle can be drawn: if they define opposite corners, a rectangle results. A set of objects, each with a similar vector but different 'instructions', are shown in the picture "VECTOR GRAPHICS".

Combining several vectors together other objects can be made. A simple arc is the line swept between two vectors originating at the same centre point. If a vector is attached to either end of a line, virtually any curve can be drawn. This is known as a spline or 'Bezier Curve'.

It can best be visualised as a strip of flexible wood or plastic (like a ruler), held at either end between your forefinger and thumb. By twisting your wrists either way – at points A and B (x1y1 and x2y2), complex double curves can be formed. In effect the initial line is the ruler.

The pressure applied to either end is the magnitude of the other two vectors and the rotation is their direction or angle.

Vector graphic methods are illustrated in the diagrams above but using them directly is really the only way to properly understand them. Most CAD programs – including XCad and Aegis Draw – use these basic vector techniques, and increasingly, DTP packages – Professional Draw and PageStream for example – are including sophisticated Bezier tools.



Vector Graphics

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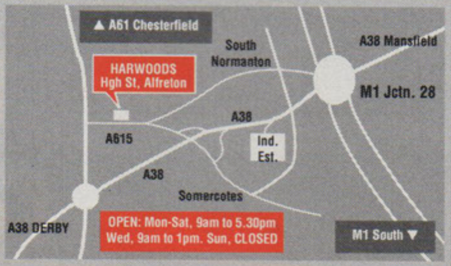


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DOUBLE DRAGON II

VIRGIN £19.99 ■ Joystick

Billy and Jimmy Lee are tough. The Black Warriors know they're tough because they were foolish enough to mess with them a couple of years ago in the classic coin-op *Double Dragon.*

The Black Warriors had kidnapped Marian, a friend of theirs, and the lads decided to get her back and put the gang out of operation for good. Sadly, they didn't quite finish off the female leader, who then spent a few years recovering before seeking her revenge. And what better way to get back at the brothers than to kidnap Marian again? So that's what she did, killing Marian as soon as she got her hands on her. So the brothers Lee are mad as hell and are going after her.

It's a one or two-player horizontally-scrolling beat-em-up in which the players control the brothers as they work their way through the various levels biffing and bashing the various enemies that come at them from all parts of the screen (some baddies even hide inside things and jump out on the brothers as they pass).



■ Using a shovel-like extra weapon: that baddie's not got a chance.

As well as the standard aggressive moves such as punching, kicking and high kicking, the bruvvers can also pick up extra weapons like maces and daggers that some of the baddies will drop once you manage to kill them. Be careful, though, because you can drop the weapons if the baddies manage to crack you one and you don't carry the weapons from one stage to the next. If you don't have any extra weapons you can always resort to picking up bits of the scenery, like oil barrels and crates, that can then be lobbed at the enemies.

The regular baddies are nasty enough – especially when you have several of them to handle at once – but extra large baddies and ones wielding swords and such like make several appearances throughout the game and generally these need to be hit more often to cause them to disappear. Bash your way through the levels without losing all your lives and continue credits and then go back and do it all again.

GRAPHICS AND SOUND

Large sprites and a full PAL screen: things look good. The perspective is a little odd but very coin-op like. Tunes play throughout that are jaunty and very listenable.

JUDGEMENT

A fun beat-em-up that's a vast improvement on the computer versions of the first game. It's too easy to keep you playing for months, though, and it's likely you'll complete it sooner rather than later. Lots of fun in two player mode. ***Andy Smith***

GRAPHICS	7
SOUND	6
INTELLECT	2
ADDICTION	6
OVERALL	64%



■ Left: a mid-level guardian makes his appearance and gets a jolly good sock on the jaw for his trouble.



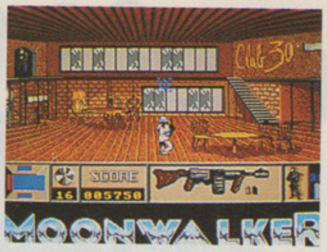
■ More end-of-level guardians. Two at once is no joke! These take some beating.



■ Start-of-level guardians this time: knock them off the platform and things are a lot easier (they're not too keen to oblige though!)

US GOLD £24.99 ■ Joystick or Keyboard

MOONWALKER



■ In the club and Michael starts to get violent with the guards that appear at the window.



There have been many games based on films before but here it isn't so much based on a film as a person: Michael Jackson. His name has hardly ever been out of the papers or the charts during the '80s, but can this popular singing star be transformed into a good computer game?

The game is split into four sections, all of which are featured in the film, of course. In the first, Michael is at the film studios being chased by his fans and has to find a disguise and then escape on a motorbike. The disguise is a rabbit suit, the parts of which have to be picked up in the correct order: feet first, head last. There are also four pieces of equipment – a camera, a microphone, a spotlight and a key – to be found.

MJ can walk or run around the studio 'lot', which is viewed from overhead and has a scanner showing the fans and objects on it. You can only run for short periods though, so save it for escaping from tight spots. If Mikey gets caught by a fan he loses a platinum disc: no discs and it's game over. There is also a time limit. The first section is relatively simple once you have learnt the map, so it's quickly on to Stage Two. Now you're the rabbit on the bike, racing round the city trying to collect orbs and destroy drugs. It's viewed from above again with a similar collection of fans and troopers chasing Michael about.

There are four lots of orbs to collect, and when the last orb of each set is collected the bike transforms into the Stratos car and you have to leap over a barrier to the next area. In the last of the four areas the bike becomes a jet-bike, grabbing the orbs from the water.



■Mind the big guy, grab the key.

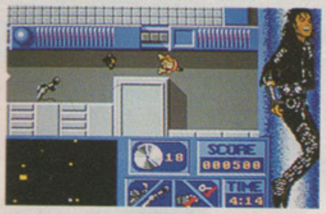
Now it's on to the Club '30s nightclub where gunmen appear at the windows and try to shoot you. A gun and bullets are to be found lying around, so you can fight back. Supplies of bullets have to be continually picked up from the random places around the club where they are left. If MJ can get through this there is a final confrontation with the bad guys, where he turns into a robot to blast guards and a laser cannon.

GRAPHICS AND SOUND

At the beginning of the game and inbetween each of the sections, there are some superb animated action screens. The game screens are not as good: the first two levels look very plain, but the last two are more detailed and more interesting. Samples of Michael's music run throughout the game. They sound fine but are on the repetitive side: constraints of memory one presumes.

JUDGEMENT

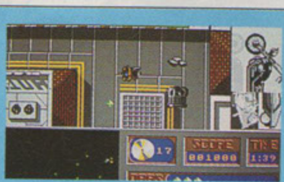
None of the four sections stands out particularly as being a great game, but all four are enjoyable. As a package it will take some time to complete and provide a fair deal of entertainment. Its main problem is that there is no particular 'high' in gameplay terms. There's a lot of good things, but nothing great. ***Bob Wade***



■ Left: Mike's tracked down the microphone, but there's a nasty-looking baddie on his trail.
■ Below: In robot mode fighting guards and the laser cannon.

GRAPHICS	6
SOUND	6
INTELLECT	4
ADDICTION	6
OVERALL	68%





■ The second stage on the motorbike. Collect the gems to turn into the car...



■ ...and burst any bags of drugs that you find lying around. Below: collect the last gem and turn into the car to jump the barrier.




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■ The end-of-level tank – kill the machine gunner to get past it.

VIRGIN £19.99 ■ Joystick and Keyboard

THE NINJA WARRIORS

Darius from Taito created something of a stir a couple of years ago when it first appeared in the arcades, not because it was a particularly good game, but because it was the first to use a system of three monitors, giving a massive 45" play area.

Then came The Ninja Warriors – a completely different type of game, but still using the large play area – and now there's the Amiga version. Will you need three monitors to get the full effect?

No. To retain the 'wide screen' feel of the game the graphics have shrunk into a 1/3 height strip of game area. This is a one or two player hack and slash game fought over six stages.

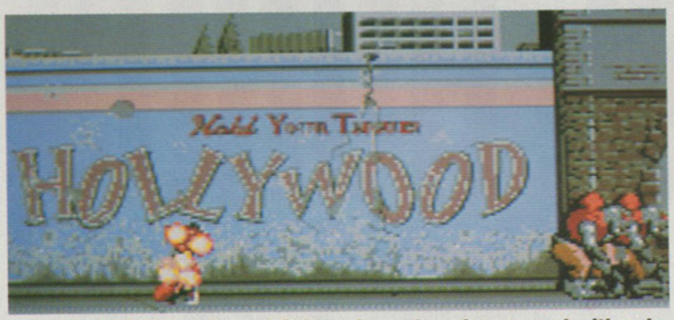
Your motivation for going through with it? Well, the year is 1993 and the head of not only the military and police forces but also all the underworld criminal elements is a nasty chap called Bangler. To restore some sense of order to things, this chap needs 'rubbing out', and so Mulk, the



■ Level One and a flying guard comes swooping in to attack.

leader of the revolutionaries, has invested some considerable time and effort in building two robot assassins. The Ninja Assassins.

This horizontally-scrolling game starts in the slums where the assassins have to work their way left-to-right through the stage chopping and slashing away with



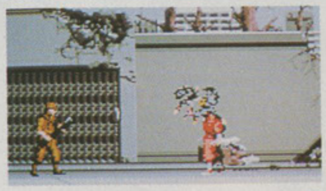
■ Aaarrgghh! Those Ground Spiders have done for you and with only two more credits left the end of the level looks a long way off.

their two knives at the enemies that come running on from either side. Obviously, these chaps don't want to be sent to the great coin-op in the sky so they'll attack you with knives themselves – some are even armed with machine guns and grenade launchers – and every hit taken reduces your

■ (Below) Got him! The Japanese are very fond of their cartoon-style violence and don't mind the odd bit of blood 'n' guts!

energy until you die. Then it's a case of either re-starting or using up one of your three credits to continue.

The game wouldn't be complete without some mid and end of level guardians to take out, and these include hunchback-like Ground Spiders and large animated tanks manned by a sub-machine gun touting maniac. Fortunately, as well as just knives, you are armed with a limited



■ The Grenadier lets one off right in your face – ouch!

amount of shuriken (throwing stars) which can be lobbed to take out some baddies from a distance. Make it through the stages and the baddies become more numerous and more aggressive, until the final confrontation with the arch-fiend Bangler himself.

GRAPHICS AND SOUND

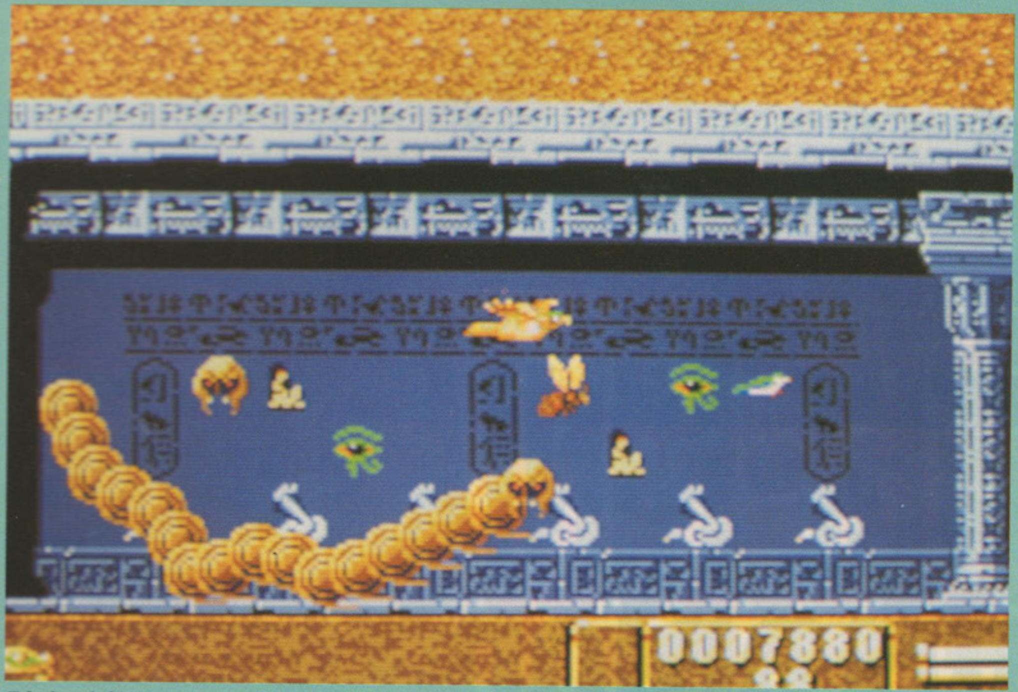
A first class conversion. The animation is great, as are the backgrounds. The sound effects are also superb, although the title music grates after a while. One of the best looking coin-op conversions to date.

JUDGEMENT

Fans of the genre are in for a real treat: this one is immensely playable and well put together. The shrunken screen works brilliantly and though it's no fault of the conversion, all the original needed was a bit more variety and it would have achieved the coveted Format Gold award. As it is, it comes just about as close as it could. A great game. ***Andy Smith***

GRAPHICS	9
SOUND	7
INTELLECT	3
ADDICTION	8
OVERALL	88%





■ In hawk form, you're confronted with a tricky snake of helmetted hieroglyphs to blast away at.



■ Confronting a spinning hazard.



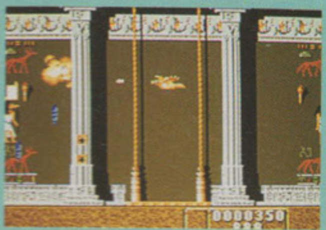
■ Whoops. Too many hits and the hawk plunges down, very dead.

LOGOTRON £24.99 ■ Joystick only

EYE OF HORUS

Not only are hieroglyphics difficult to understand, they can prove hazardous to your health. Well, they can if you are the son of an Egyptian god trapped in a pyramid. Then again, surely this should prove no trouble for a guy that can change into a hawk whenever the fancy takes him.

The task is to retrieve the seven pieces of your father's body. Hang on a minute: two arms, two legs, one head and one torso makes six. What's the other bit? Anyway, these are scattered around the labyrinth of the tomb and, having got all the bits back together, you must confront Set, the loathsome chappy who split them up in the first place.



■ Yow! Exploding hieroglyphs.

The pyramid is represented entirely in 2D, with corridors linked by lifts. Horus can use the lifts while he is on foot, but quicker progress can be made along the passages by taking to the air. However, you need to keep a close watch while flying along because there are many amulets hidden amongst the hieroglyphics on the walls and these can only be picked up by walking past them.

As well as the amulets there are also keys to be found and these are used to unlock lifts, which allow further exploration of the tomb. This exploration element is the main challenge in the game: trial and error searching to open up all the sections of the tomb.

The amulets have many different uses, all of them will prove useful. There's one that gives a map showing the explored areas of the tomb, several that destroy the attacking hieroglyphics, energy replenishers, firepower changers and a shield. You can even call on the help of two unearthly friends, Isis and Anubis, to provide gifts to aid Horus in the quest.

There are lots of different hieroglyphs that suddenly animate out from the walls and try to hit Horus. They behave in many ways but can all be blasted out of the way. You can shoot when walking or flying, but it is much easier taking enemies out from the air.

GRAPHICS AND SOUND

The corridors and hieroglyphics are pleasantly designed but are nothing out of the ordinary. There are plenty of enemy sprites, none of them very large. The scrolling is smooth, except for a little glitch when the lifts go up and down. Not much in the way of sound effects but the music is good, plonking its way along through title screens and the game itself.

JUDGEMENT

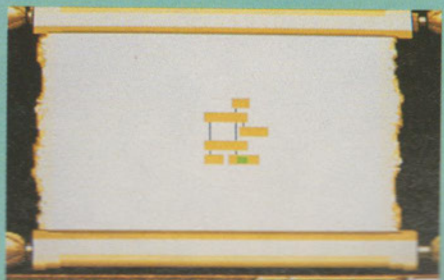
It's a passable arcade adventure with plenty of exploring, lots of objects and a deal of blasting. What it has not got is anything that makes it stand out from the crowd. You will undoubtedly get enjoyment from it and it will not be easily completed, but the excitement level never gets very high.

Bob Wade

GRAPHICS	5
SOUND	6
INTELLECT	5
ADDICTION	4
OVERALL	61%



■ The hawk hovers below a blue amulet...



■ ...which gives you a map when used...



■ ...while another one has called up Anubis.



MICROSTYLE £24.95 ■ Joystick or Keyboard

STUNT CAR RACER

Who said brain games were the best? Even the author of a classic intelligence tester must fancy a bit of high-speed action from time to time. Which is presumably why Geoff Crammond not only wrote the classic game *Sentinel* but has also written *Stunt Car Racer*.

And that's just what it's about: the player takes control of a stunt car and has to drive it around eight death-defying tracks. The player's aim is to become Division One champion in the *Stunt Car Racer* League, but to do that you'll have to get to Div 1 first.

Starting in Div 4, you have to race both other drivers in the division on both tracks. Points are awarded to the winner of the race (who gets two points) and the competitor who put in the fastest lap during the race (who earns just one). At the end of the season the competitor with the most points is promoted to the next division, but of course once you get out of the fourth, you always stand a chance of being relegated if you finish the season in last place.

Make it to the top of the first to earn a chance to take part in the Superleague and race against some expert competition in better cars (faster with better brakes).

The action is all viewed from the cockpit and the controls are very simple: push forward on the joystick to accelerate, pull back to brake and move it left-right to steer. What's not so easy is staying on the elevated tracks which twist and turn, dip and rise the whole way round. Each race consists of three laps of the track and the race is over when either car crosses the finish line or one car becomes a wreck.

Fall off of the track (or even take a jump incorrectly and come down too heavily on the other side) and you'll incur chassis and structural damage. Too much damage and the car becomes a wreck and 'race over'. However, before starting a season it is possible to practise the track so you can learn exactly where to use the nitro boost and where to decelerate (it would be far too easy to just blast around the track willy-nilly) before competing for real.

GRAPHICS AND SOUND

Revving engines, crashes, screeches and scrapes – all of which sound great. The graphics are superb: extremely fast, and well animated. Excellent stuff.

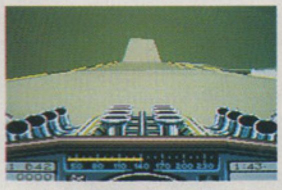
JUDGEMENT

This is gripping stuff. Action all the way – you really will be holding your breath as you go flying over the jumps and gritting your teeth with determination when you see your opponent go whizzing past. All it lacks is an instant replay option to allow an out-of-cockpit view of those spectacular crashes.

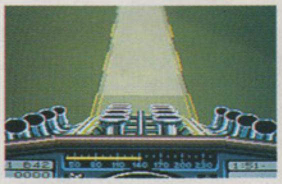
Andy Smith



■ Falling off a track this high in the air can cause severe damage to your car!

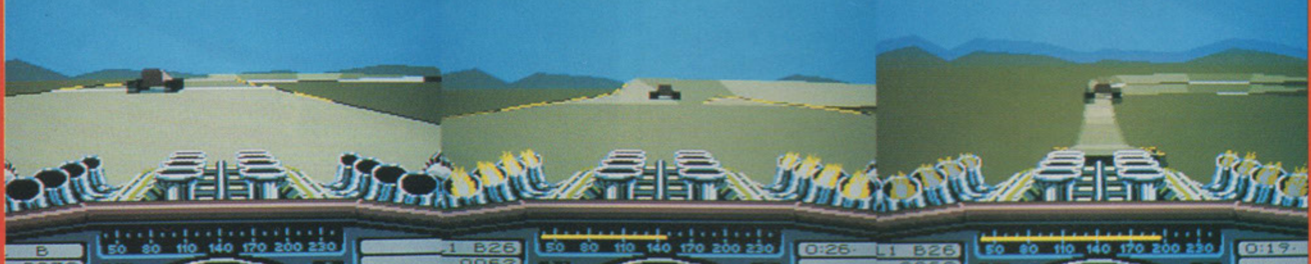


■ Heading towards the Ski-Jump. Be careful not to take it too quickly or...



■ ...you'll incur massive damage that'll make it tough to finish the race.

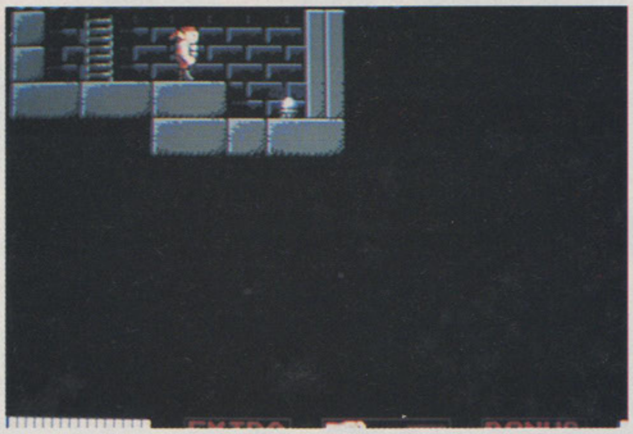
GRAPHICS	9
SOUND	7
INTELLECT	4
ADDICTION	9
OVERALL	93%



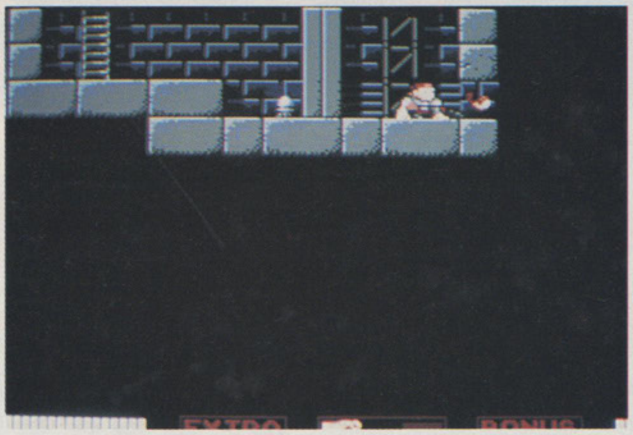
■ Haring around the track against a computer-controlled car (on the Little Ramp). That jump is dangerous, so don't forget it's there.

SWITCHBLADE

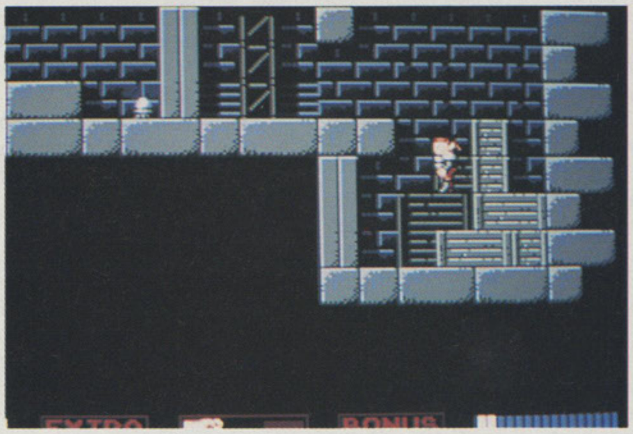
GREMLIN £19.99 ■ Joystick



■ Starting at the top: Hiro has just entered the underground city.



Go through the door and more is revealed. Kick the far wall and...



...the blocks disappear, revealing an entrance to another room.



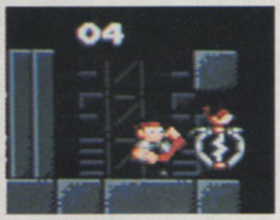
And after that, another: this room has a nasty alien in it, though, so get ready to biff him. Do you see how the game system works?

Things had been pretty good on the Cyberworld of Thraxx for the last 10,000 years: the Bladeknights looked after the place well thanks to the power of the Fireblade. Had been good, that is, until the awakening of Havok who then smashed the Fireblade into 16 pieces, ending the Bladeknight's rule, and topped most of the Bladeknights before taking control of the Undercity.

Hiro is the last of the courageous band and it's up to him to save Thraxx and restore order by finding the pieces of the smashed Fireblade and then reassembling it to use against Havok.

The player takes control of Hiro and has to guide him through five levels of the undercity, picking up the pieces of the Fireblade as he goes. There are, however, complications. First of all, there are loads of Havok's guards to overcome. Some are stronger than others, but all of them can biff Hiro reducing his energy and once the meter reaches zero he loses one of his five lives.

Fighting back is the answer and as he's got a cyber arm he might as well use it. Holding the fire button down causes a meter at the base of the screen to rise: releasing the button at 1/4 strength causes Hiro to punch, releasing at the 1/2 to 3/4 mark causes him to make a high kick and at full strength he makes a low kick. By using the right move at the right time most opponents can be overcome.



■ Power-ups can be found by the simple process of demolishing certain blocks.

There are power-ups that can be collected to increase the strength of the attack and there are extra weapons that can also be used, including a fire ball shot and darts. Unfortunately, all weapons have a limited ammo supply so they have to be used carefully.

The other main problem is the fact that Hiro doesn't know where he's going and can only see parts of the Undercity that he's actually been in. For example, he could be climbing down a ladder going past several rooms without knowing it because they won't be displayed until he actually goes in them.

That doesn't sound too difficult until you realise that the majority of rooms are hidden behind ordinary wall blocks. The trouble with this is you only know they're there if you punch away at a wall and the blocks break up.

This is also how you collect most of the extra weapons which are hidden inside seemingly ordinary blocks. So, there's lots of exploration to be done in order to find and collect all the pieces: and then the problems really begin.

GRAPHICS AND SOUND

It's all viewed in side-on 2D and all the rooms are well drawn and the sprites well animated. The music in the game is good but you can toggle to effects (good ones too) if you'd rather.

The sprites may be small but they look good and move well (not the best jumping sequence ever seen though). The presentation as a whole manages to stay just the right side of cutesy.

JUDGEMENT

It's the exploring that's the fun, finding new routes that you had no idea were there or seeing a doorway and wondering how on earth you're going to get to it. The combat can be fun too, but get the hang of the meter and it becomes a little easy (thank goodness baddies don't reappear every time you re-enter a certain room).

With only five lives at your disposal this is a toughie, but you'll have lots of fun all the same. It's certainly blessed with loads of the 'I wonder where that leads to' factor making it very addictive. A great arcade adventure that's well polished and well put together.

Andy Smith

GRAPHICS	8
SOUND	8
INTELLECT	4
ADDICTION	8
OVERALL	85%



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■ Chatting up Mermaids is one of the perks.

ELECTRONIC ARTS £24.99 ■ Mouse

KEEF THE THIEF

What a lousy punk! You haven't the self discipline to continue your studies to become either a magician, priest or warrior and you learned to live the life of a thief. Thus exiled, you are slightly adept in each, making you one hell of an ideal adventure character and ready for action.

Keef the Thief is a graphic adventure in the traditional role-playing mould as seemingly favoured by Electronic Arts. The more killing you do, the more experience you gain as a warrior and the same principle applies when you use magic and practice theft. You can find, buy or steal extra items to help you along on your quest and if you eventually get a few status levels higher, you're laughing.

The problem is just that starting with a mere few hit points and a tree branch in your hand doesn't offer good odds for survival. Saving the game is of prime importance and should be done frequently: it really is vital and thankfully, quick and easy.

You begin the game outside a wealthy city called Same Mercon, where – armed with that tree branch – you can hear (or rather buy) the latest rumours, buy the strongest ale and other essential commodities, and practice your art. Once you think you're ready to 'kick ass' you wander into the jungle (having first requested easy monsters). Here you can wander the tri-city area at will, hacking and slashing all the way round.

It isn't particularly a massive area or game, but just large enough: not too boringly big or too patronisingly small. Here you meet varied and largely unintelligent characters along with various dungeon arenas where you can romp round with a manic smile, or search around for the booty.

The game is pretty fast, with nice colourful graphics that have a certain cartoon quality about them. The graphics plus the music blaring away make it a very cheery game: one that brings a smile to your face as you hack away at some goblin swordsman or walking sprout.

The aim of the game, although never actually stated, is to become the Magician King, the top force in the land. Through various rumours, you gain more understanding of what is going on throughout the tri-city area, such as other powers and what happened to the old Magician King.

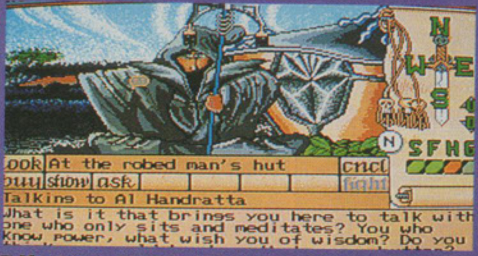
The game is easy to use when you get into it. To start with you're likely to die every two minutes, with more experience you may last five: but don't lose heart, persevere and save the game frequently. The gist of the story will grow on you and you'll learn to master the fighting screens with ease, knowing when to hide and when to run. The perfect coward!

Keef the Thief becomes more intriguing the more you get into it. You want just one more romp through the jungle, or another five attempts at removing a trap. It's a simple and fun game. The actions you can choose from are few and only the ones available to you are kindly highlighted. It's easy to pick and then chop and change. What more could you ask for as you slob in a chair, mouse in hand?



■ Get used to this picture: you'll be seeing it often enough.

An absorbing hack 'n' think game. Great in its simplicity and addiction and not too tough with the puzzles, but still full of ones of a 'how-to-get-round-this?' nature. A good laugh that will keep you engrossed for many a slaughter-house night. ***Nick Walkland***

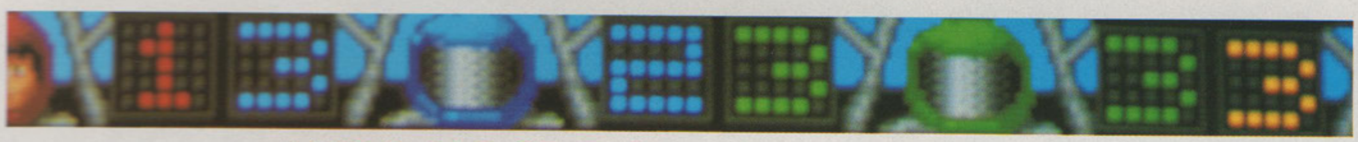


■ Meet up with your buddy Kung Fu expert.



■ Beauty is in the eye of the beholder.

GRAPHICS	8
SOUND	7
INTELLECT	9
ADDICTION	8
OVERALL	89%



ANCO £19.95 ■ Joystick or Keyboard

RALLY CROSS CHALLENGE

Another of this month's racing games comes from Anco, who are more famous for their brilliant *Kick Off* and a considerably less exciting range of strip poker games.

Up to four players can compete simultaneously in the game, which contains six different tracks to race around. Each race lasts for seven (or, later on, eight) laps of the track and the first three finishers qualify for the next race.



■ Spend your winner's points on useful extras for the car.

Points are awarded to the finishers and these points can be traded in at the start of each race for car enhancements such as better traction for improved road holding and a turbo boost to reduce the amount of time needed to reach top speed.

Spending points is a dangerous thing – especially early on in the game when you have few – because should you finish last in a race 10 points are deducted from your score: and if you have less than 10, it's game over and you have to start all over again.

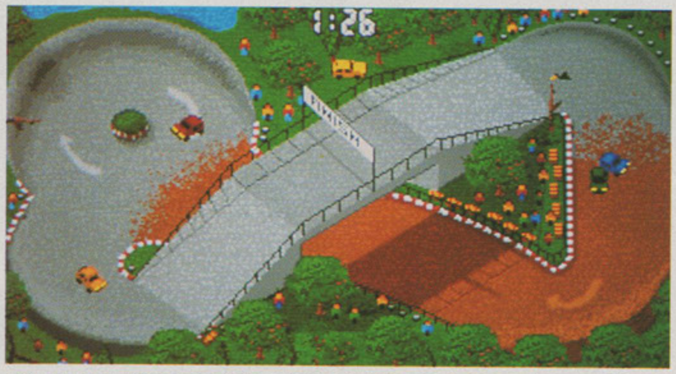
Make it through a race and you'll find the quality of the competition improving, making it much harder to qualify for the next race. This is particularly true if you have to drive at night: darkness seriously increases your chances of clipping a hay bale or a railing, causing your car to burst into flames and putting you out of the race for a few valuable seconds. So a pit stop has to be made to get your car fitted with headlamps. Even then, extra caution is needed.

On the plus side though, colliding with the other cars does nothing but slow you down a little and the computer-controlled opponents also go spinning off the road and into a barrier if they misjudge a corner or lose control. One particular hazard is the possibility of hitting one of the mysterious appearing and disappearing oil patches in the road.





■ Tearing past the green car to snatch the lead. Have you made your move too early, though?



■ Oh dear! Things are going badly in this race: look at your driver's face. It's going to be impossible to pull this one out of the hat.

GRAPHICS AND SOUND

All the action is viewed from above and all the tracks are jolly well drawn. There are several nice touches in the graphics department, including the occasional bird flying across the screen or a car revving up. All very nice, but of course your attention is on the driving, so it's hard to appreciate these touches. The revving and honking noises made by the cars are fine and add atmosphere.

JUDGEMENT

Comparisons between this and games like *BMX Simulator* and *Super Sprint* have to be made, simply because it looks and plays just like them. Your car does tend to handle just as you'd expect a rally car to, what with all that inertia, but even so it's much more of a simple racing game than a driving simulator and as such it has limited lasting appeal: though playing with four people at once can be great fun. ***Andy Smith***

GRAPHICS	7
SOUND	6
INTELLECT	2
ADDICTION	8
OVERALL	64%

Football games are the hardy annuals of computer titles – hardly a month goes by without a new one. To stand out in the crowd it has to have something different. This one claims a 'revolutionary control system' and a 'vast range of player details'.

Sadly, the revolutionary control system is appallingly difficult to use and you will rapidly dispense with the match highlights and resort to the strategy side of things. Controlling all eleven players may sound good, but each player has to be selected and then told where to go: at which point they stand around doing nothing until you tell them to run somewhere else. Very tedious.

The strategy is much better implemented. The player details are comprehensively informative, making the buying, selling and positioning of each man the most interesting thing.



■ Playing the match by controlling just one player at a time.

There are the usual cup competitions, along with the league, and you will also find formation changes, contract negotiations, reserve matches and spying missions need to be seen to.

Football games need more than this one has before they stand out these days. The strategy is competent and absorbing but it has nothing you can't find in several other games. ***Bob Wade***

SUPERLEAGUE SOCCER

IMPRESSIONS ■ £24.99 Mouse

GRAPHICS	1
SOUND	1
INTELLECT	6
ADDICTION	6
OVERALL	48%



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INFOGRAMES £29.99 ■ Mouse and/or Keyboard

SIM CITY

Who wants to be a city mayor? I do. Just imagine being in the hot seat in San Francisco after the 1908 earthquake: could you cope? Or how about controlling Tokyo in '57 when Godzilla has just been spotted heading your way?

Sim City is just that: a simulation of a city. Leaving the pre-set scenarios aside for the moment, the idea of the game is to build a city from scratch and keep the thing ticking over using the limited funds available.

Every city in the game has three basic 'blocks': Residential, Commercial and Industrial. A successful city will have the right balance of all three blocks: no point having loads of shops and banks if the populace has no jobs or homes! But it's not necessarily as easy as all that.

At the start of the game, you're given a lump sum of money – the exact amount depending on the skill level – and you then have to take several things into consideration before splashing the loot about. For example, the residential zones will need to be far enough away from the industrial zones to encourage people to come and live in them, yet transport routes between everything have to be good (roads and railways can be built). There will have to be enough jobs to attract people to your town and enough commercial zones for them to spend their wages in... and so it goes on.



■ Pick the territory, give your town a name and away you go.

Once you've set the town up, complete with power stations and police and fire departments, the major headache is keeping people there to nail for their taxes: tax money being the only other source of capital, needed to maintain and expand the town. Set the tax rate too low one year (the game runs in years which take about five minutes of real time) and you'll attract lots of residents but you will generate very little revenue.

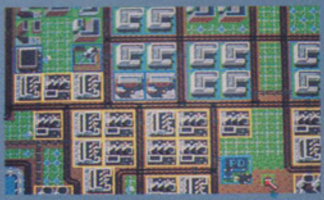
And once you start losing money, the problems start to occur. The crime rate may be soaring, but if you just can't afford another police station people leave and the community eventually starts falling apart.

It's all a question of balance: juggling the economy, listening to the people's needs (an evaluation chart can be called up at any time to see what percentage of the population think you're doing a good job, and see what their biggest gripes are) and trying to expand until your small village turns into a Megalopolis of a quarter of a million citizens.

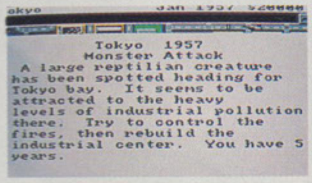
If building and running your own city seems like too much hard work then you can always try jumping into a ready-built one, as mentioned earlier. The scenarios are a harder game in many ways, as you are always set specific tasks: restore an earthquake-devastated town to its former glory in something like 30 years.

Real masochists, though, will start a town from scratch and build it up until it's doing very nicely thank you, and then invoke a disaster of their own, such as a flood or a major city fire. Whatever you choose, you're the mayor and it's the population you answer to.





■ Above: starting off. Getting the initial balance right is crucial if the town's to grow. Right – the city has grown enormously and is ticking over nicely, for now.





■ If you get bored of building your own cities, have a go at one of the previously set-up scenarios – note, they're not at all easy!





■ There's nothing you can do to get rid of the monster so you'll have to wait until he decides to go and then pick up the pieces.

GRAPHICS AND SOUND

The sound effects are fine but that's all they are. The graphics are basic but they do their job well enough. Simple looking stuff.

JUDGEMENT

It's the compulsive gameplay that really makes it. It has that certain something that makes you want to keep going, for hours at a stretch: just one game can last you for weeks. It has much more general appeal than something like a football management game, but it has the same 'once you're into it you can't get out of it' character. Terrific stuff. ***Andy Smith***

GRAPHICS	6
SOUND	6
INTELLECT	6
ADDICTION	9
OVERALL	92%





■ Inside the first treasure room. Collecting the jewels only gains you points, it doesn't help you get any further in the game.

TWIN WORLD

UBISOFT £24.99 ■ Joystick

The Gaspars were a peaceful and prosperous race, watched over by the magical family Carikens. Sadly, the family neglected their magic and the Kingdom began to fall to pieces. That's when the evil druid Maldur decided to move in and massacre the family.

Only one child survived and it's down to him to collect the 23 parts of the magic amulet that have been scattered throughout the land to prevent the family Carikens from rising again.

But we can't have evil triumphing over good, can we? So, you'll have to take on the persona of Ulopa, the last of the Carikens, and ensure you collect all the parts thereby defeating Maldur.

It's an arcade adventure from French programmers Blue Byte with its roots in *Super Mario Bros.* The 23 levels each have an upper and lower level (world) and the player can easily get from one world to the other by going through the cavern mouths on the levels. Getting from one level to the other, though, involves running around and collecting the pieces of amulet and then finding the level exit (identifiable by the symbol above the door).

Maldur is none too keen on the idea of you running about trying to ruin his fun, though, so he's infested the levels with all manner of flying, walking and crawling nasties that all remove one of your six lives on contact. To combat them you're armed with three types of ball shots of varying strengths and properties (one of them bounces) which you can fire. Destroying the monsters also causes them to leave behind caches of more ammunition which is jolly handy.

There are other bonuses that come in useful during the game including a parachute which allows you to fall off high platforms without injury and springs which are very helpful for when you want that bit of extra sproing to leap over a particularly high wall. These extras are activated simply by hitting a key. Run about finding the bits of amulet, take on the big monster every fourth level and try to find a way into the treasure rooms for extra points: and there you have it.

GRAPHICS AND SOUND

The main sprite is great: neat touches like him skidding when he swiftly changes direction for example all add to the effect. The rest of the graphics are colourful and well drawn and everything is well animated. The in-game tune is fine, as are the effects, but neither of them are outstanding. Altogether a very cute-looking game.

JUDGEMENT

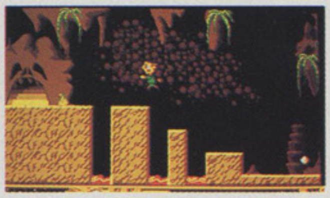
Platforms and ladders, running around collecting things, different worlds – they're all old hat nowadays, but when the game's as well put together as this one is it's easy to see why the formula became such a hit. Great fun, highly playable and addictive too.
Andy Smith



■ The first piece of amulet.



■ Shooting away at a nasty.



■ Careful jumping needed here.

GRAPHICS	8
SOUND	6
INTELLECT	4
ADDICTION	8
OVERALL	81%

FIGHTING SOCCER

ACTIVISION £24.99 ■ Joystick

This one or two-player footy game is the conversion of the SNK coin-op machine. The idea's very simple: it's Olympic football you're playing and eleven teams are taking part in a knockout contest. You control one team and have to get through to, and win, the final.

The action is all viewed from above and the player you're controlling is highlighted. To pass or shoot the ball a big direction arrow is moved and the fire button pressed. At the end of the two-minutes-a-half match, the winner goes through to the next round.

This was a jolly nice coin-op game, and although the conversion is very slow everything is there. It's a shame the lack of speed makes it far too easy to win (even on first attempts) because once you've won there's little incentive to come back to it. The two player option helps, but not much. ***Andy Smith***

GRAPHICS	7
SOUND	6
INTELLECT	2
ADDICTION	6
OVERALL	43%



■ The Japanese 'keeper had no chance, Brian.

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ONSLAUGHT

HEWSON £24.99 ■ Joystick or Keyboard



■ The map screen shows enemy details towards the right.



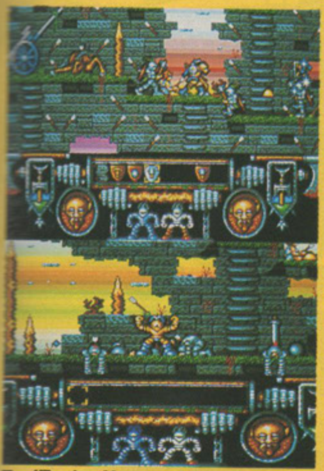
■ You start the field battle owning just a mace to fight with...



■ ...but this is an even more impressive weapon in action.



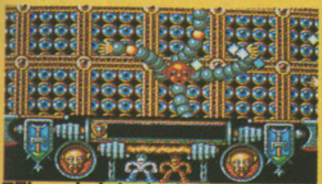
■ Whoops, stepped on a mine and knocked lots of energy off.



■ (Top) Near the sparkling enemy banner, and (Above) celebrating victory after mopping up.



■ Dying in the siege stage after having boiling oil poured on you.



■The mind duel where your lone hand fights the armed monster.

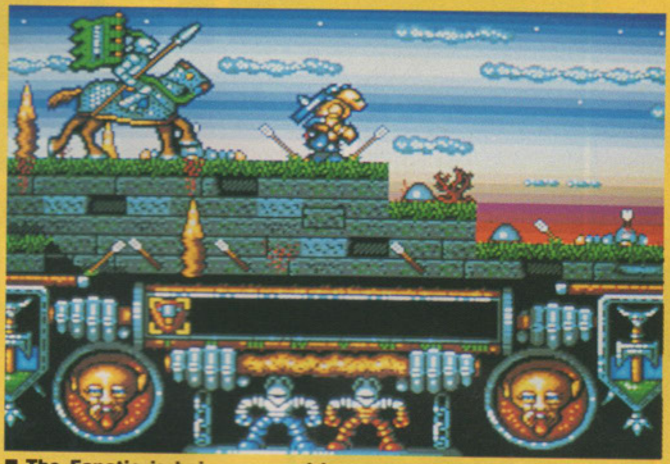
You are a Fanatic, an extravagantly or unreasonably zealous person, especially on religious matters. No, it's not a game about football supporters: it's about warring kingdoms trying to conquer the land of Gargore. Axes, arrows, bombs, demons, maces and lots of violence... then again, maybe it is about football.

Gargore is a 16x16 grid filled with various types of terrain and many warring tribes. The player starts off with just one location and has to conquer every single enemy site, which is no easy task because there are three different stages to complete at each place. A different enemy general and warband inhabit each location and a status screen gives information on the cult they worship, the type of warband, strength of the wizard lord and the kingdom's population.

The first stage of an attack is the field battle conducted on a horizontally scrolling play area. The Fanatic starts at the far left and has to fight his way to the enemy banner on the right. The enemies that await depend on the type of warband in the kingdom: spear throwers, swordsmen, cannons, exploding monks and lumbering war machines are just some of the dangers. Every hit from one of them lowers the power level, which is most severely affected by treading on mines.

The Fanatic starts with just a mace but can get weapons along the way by killing enemies. The weapons vary in strength and range and include bows, bombs and homing demon blasts. There are also spells to collect that replenish power, destroy all enemies and freeze them as well. All these objects can be picked up into the inventory list and in the heat of battle will be used up very rapidly indeed.

While trying to battle through to the enemy banner you have to watch how many of the enemy you allow past because if too many go off the left of the screen you will have to perform a defending action. This works just like a field battle but if you should lose it an area of territory is irrevocably lost.



■ The Fanatic is being pursued by a mounted knight. Like wagons and boar riders the horse will push you along, draining your energy.

If the enemy banner is reached it stops the bad guys appearing, leaving just a few to mop up before moving on to the siege section. This is also just like the field battle, with a banner at the top of the castle on the right. Reach that banner and mop up the enemy and it's on to the final mind duel with general.

The mind duel is a single screen battle against a four-armed monster in the middle of the display. You control a hand moving around the edge and have to blast the monster with enough homing shots before his hands shoot you. Succeed and the territory is yours, fail and you are taken right back to the siege stage.

The mind duel also takes place when entering temple locations. While fighting the temple guardian, talismans can be picked up that allow freer movement on the map over forests, swamps, water, mountains, plagues, crusades and rebellions. Unfortunately it is also all too easy to use a talisman in field combat and not be able to move around so much.

The plagues, crusades and rebellions occur randomly: the first two make conquering a territory harder, while a rebellion takes one of your territories away.

One essential feature is the ability to save the game. It's essential because it's so hard to stay alive. From the same editing screen the game map can also be altered, allowing you to set up your own game worlds.

GRAPHICS AND SOUND

The map screen is basic but functional, while the in-game graphics are very good indeed. Detailed backgrounds, lots of colourful, well animated sprites, levels that extend upwards as well as scrolling horizontally and many a fine explosion. The music is of the 'atmospheric' variety and is very appropriate and pleasing.

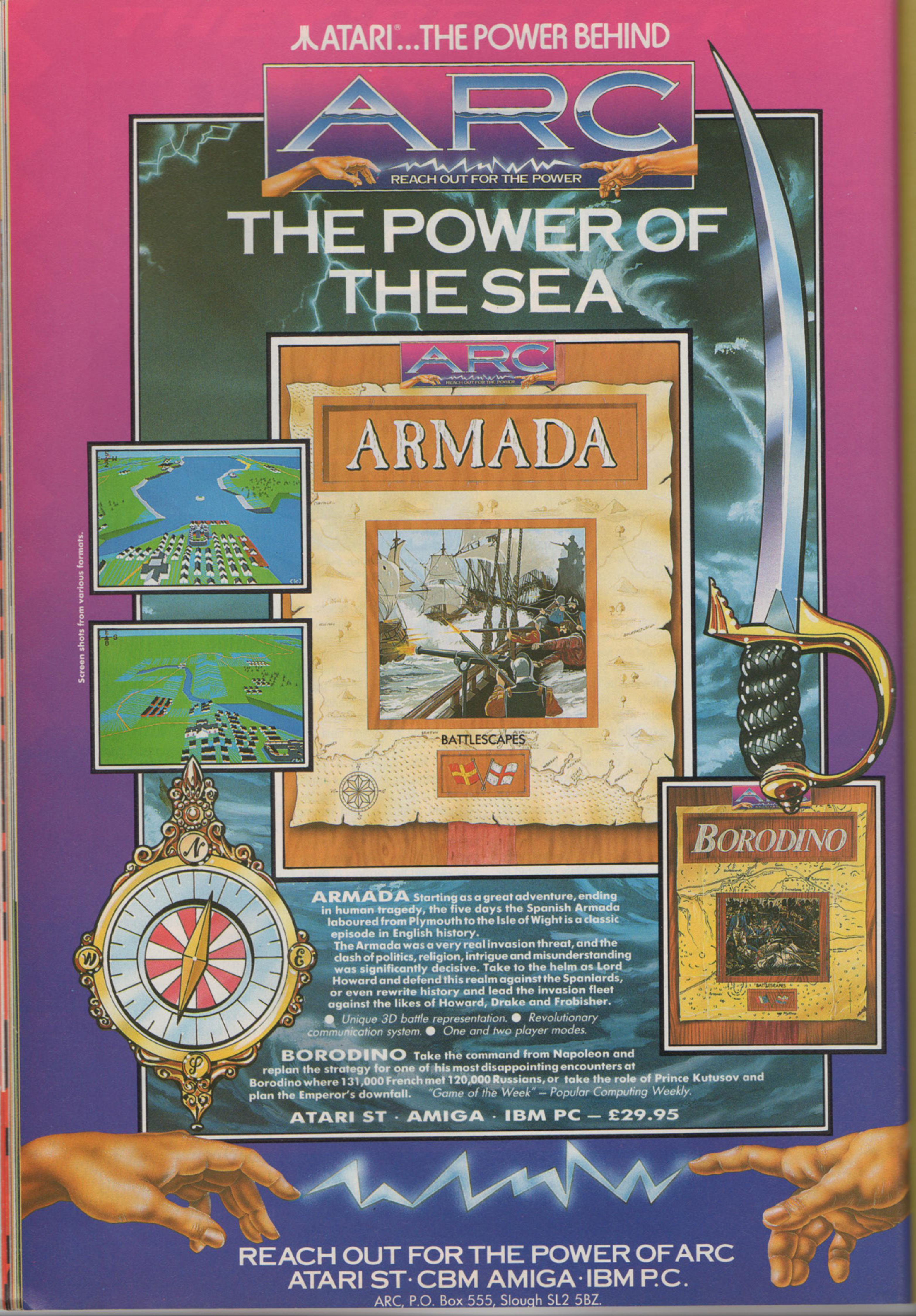
JUDGEMENT

This is not a game to be approached lightly – it is tough. Conquering just one territory is hard enough and getting control of the whole map is a massive task. Despite being difficult, it is also addictive: you may beat the table with frustration, but you will also have another go.

Without the save game feature this would be an impossible game to play: with it is just difficult. It's a lot of fun but has just too high a frustration level to be top class.

Bob Wade

GRAPHICS	8
SOUND	7
INTELLECT	3
ADDICTION	7
OVERALL	78%


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LUCASFILM/US GOLD

£19.99 ■ Mouse

INDIANA JONES AND THE LAST CRUSADE: THE ADVENTURE GAME

'You've seen the film, now play the game'. I can almost smell the advertising spiel going through their heads. Anyway, I must confess that I'm a closet Indy fan: but will even that qualification be helpful in playing the game?

Indy (the adventure game) follows the plot of the film closely, with a couple of extra scenes thrown in for good measure. For the uninitiated: Indiana's dad has been kidnapped while searching for the holy grail and Indy's gone to find them both. He travels to Venice, Berlin, Iskerderun and numerous other places and is swamped by thousands of rats, followed by the Gestapo and chased by the Luftwaffe.



■ Are libraries all so morbid?

Then he must find the grail place, pass the tests and then choose the correct cup. All in all, Indy's got a lot on his plate.

On to the game. It begins with a pretty basic intro screen, as in the movie, with Indy leaping over a train, but the game proper starts when you enter your classroom and hoards of screaming students demand to have their cards signed. After tactfully dealing with the situation and escaping, you visit the millionaire Donovan and you're then free to travel, first to your father's wrecked house and then to Venice.

Each part of the game leads on logically. It must be said that there's no set way to play the game, and you can act in whatever way you see fit for a surrogate Indiana. This also means you can complete the game and go back and try to do it a different way. You get a score in IQ (Indy Quotient) which not only shows your present score in the current game, but also how you fared in previous attempts.

The graphics are nothing to sing and dance about, nor are the music and sound effects, being sparsely dumped here and there and failing to add anything to the gameplay. The animation is acceptable but due to the overall sense of sluggishness, it gets a tad boring. Frequent disk changes are darned irritating and add to the general frustration that the game manages to create.

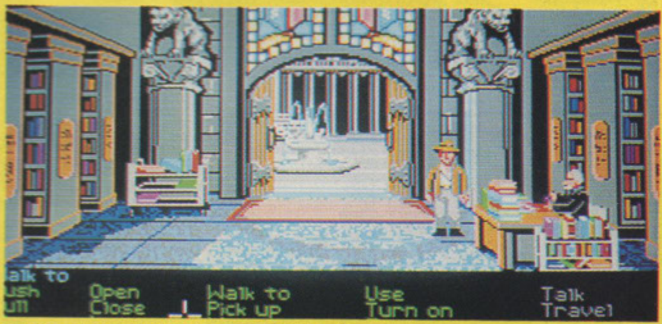
It is worth persevering with, though, if only to get to the end. The mouse interface is accurate despite being awkward in use. Atmosphere exists in the game but it doesn't leap out of the game and grab you by the throat saying 'don't you dare turn me off!'.

IJTLC is an above-average animated graphic adventure, suitable for a younger audience and those who don't want a particularly challenging game. It isn't a meaty adventure, but it does have its moments. If you enjoyed the film, you'll like the game. This time he brought his dad and decided to leave me at home.

Nick Walkland

GRAPHICS	7
SOUND	6
INTELLECT	7
ADDICTION	5
OVERALL	71%

■ (Below) Now, which slab was it that I wanted, again?



■ Indy starts by being accosted by fans.



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RIO DE JANEIRO 2019.

SIM CITY

What you should know about the game of the year.

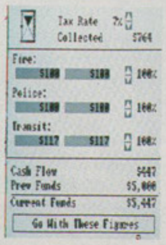
On seeing the crumbling estates, out-dated roads and rusty bridges of your city, how many times have you said "Put me in charge for a day and I'll make this wretched thing work!"
Now, with Sim City, take the destiny of the world's greatest cities in hand. Or take charge of a new evolving and growing city. Become both mayor and city planner of a dynamic real-time simulation.

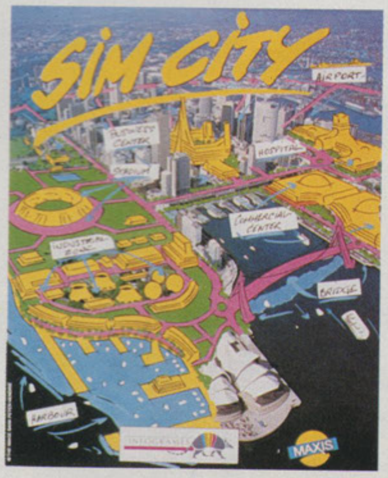


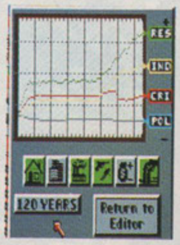


Build houses, streets, factories, airports, a stadium, or even nuclear power plants. Organise urban transport, hire police, firemen, bulldoze entire neighbourhoods.
Raise and collect taxes, balance your budget, manipulate property values. Sim City is alive. It's loaded with animation and detailed sound effects. Build roads, cars appears. Lay tracks, trains go. Build an airport, planes fly. Neighbourhoods go upper-class. Areas deteriorate into slums. Small industries grow into huge factories. Everything is managed and animated in real time. Every decision instantly influences the life of your town.



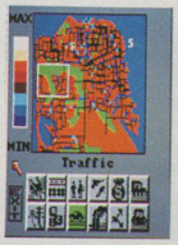








In a special mode, you can even cause tornadoes, floods, fires and other disasters at your whim. Save San Francisco from the great earthquake of 1906. Or save Tokyo of pollution and from his famous B-movie monster. Sim City is an all-absorbing unique game which contains 8 pre-defined scenarios : e.g San Francisco, Tokyo, Rio de Janeiro... With it's exceptional depth of play, it's still simple to play with icons and graphics, without text commands.





Design and build the city of your dreams. Sim City gives you the keys. The rest is up to you.

INFOWORLD Volume II Issue 20 : "People playing Sim City are completely plugged into the world they create, disappearing for hours."
NEW YORK TIMES : "The model is very sophisticated, yet understandable. And just as important, it's fun, too."

MAXIS INFOGRAMES

ROCK 'N' ROLL

RAINBOW ARTS £19.99 ■ Mouse



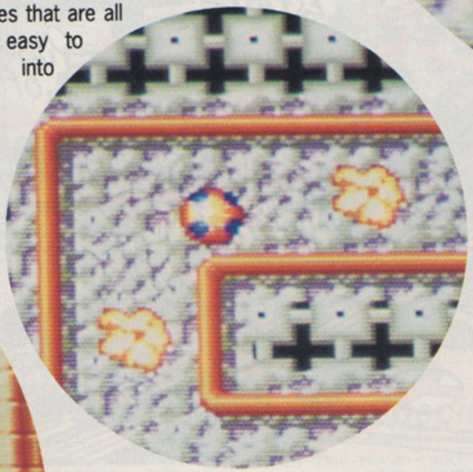
Fashion really does move in cycles, and now, all of a sudden, marble and rolling ball games are back in vogue. This one contains 32 levels (or are there more?) to roll your ball around – all of them viewed from above.

It's an old game style, but it's more sophisticated than the early games of this type. To kick off, the levels are large – very large – and access to certain parts is denied until a key is collected that will open a doorway. Of course, the doorways are all colour-coded, so a blue key won't get you through a red door. That's essentially the game. Roll around collecting keys that allow you to move through the level and eventually reach the exit to the next level.

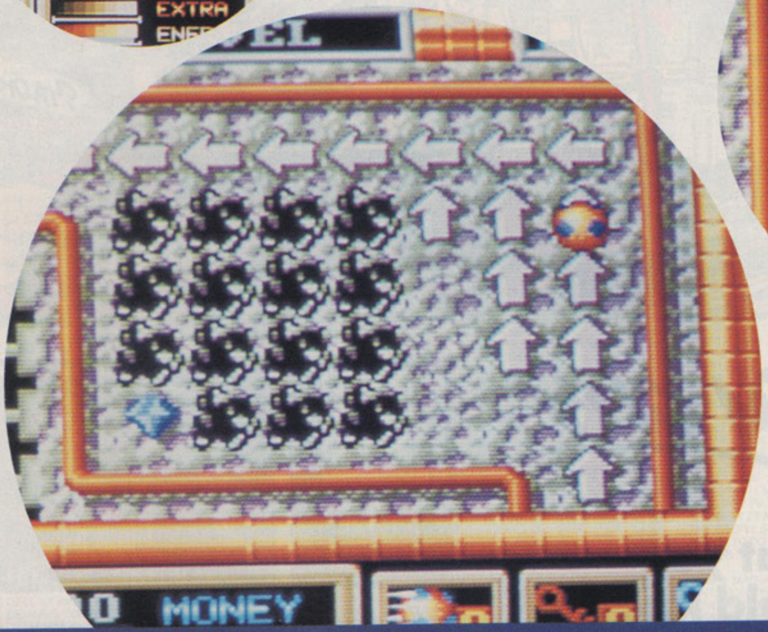
Things, thankfully, are never that easy. The doors can be a problem, but at least they don't kill you, unlike some of the other hazards on the levels. The most obviously horrid things are the holes that are all to easy to roll into and the energy sapping fires and acid pools. Things that are not quite so obviously nasty are the wind machines that blow you off course and the ice patches that send your ball skidding all over the place. Combine a patch of ice with a few holes (or the incredibly nasty, seemingly fine pieces of floor that gradually disintegrate as



■ Buying some extra floor tiles.



■ Above: still on the bonus level, and this time there are no arrows to help you over the collapsing tiles, so speediness is essential!



■ Above: on the bonus level, mind the fires.

■ Left: luckily those arrows roll you over the collapsing floor.

MAGIC MARBLE

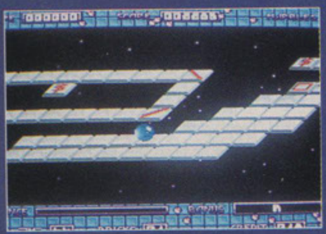
Sphinx £19.95 ■ Joystick

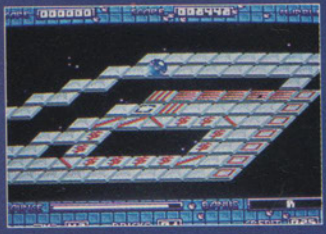
This one or two player variation on a theme is also from Germany, and from a relatively unknown (over here anyway) software house that goes by the name Sphinx.

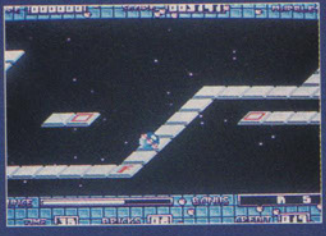
The name of the game leaves you with no doubt as to what it's all about, but just to provide some motivation here's the scenario. A bunch of marbles are all getting along quite nicely until they realise they need a new Grytzl and getting hold of one is going to be tricky. One of the marbles is going to have to travel the forbidden lands of Wrabis, reach the other side of Marbleblue, and pick one up.

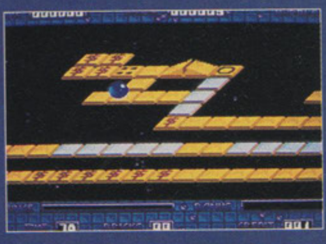
No, you can't just sit back and watch one of them get on with it. You're going to have to take control of one and guide him through ('him' because Marvin the marble is the only one brave enough to attempt this perilous journey). There are 10 levels to the game (large levels at that!) and it's simply a case of guiding Marvin along the suspended roadways from one end to the other before the time limit expires. Because the roadways are suspended, there's a great amount of fine control required to keep Marvin from falling off (which results not in the loss of one of his six lives, but in a

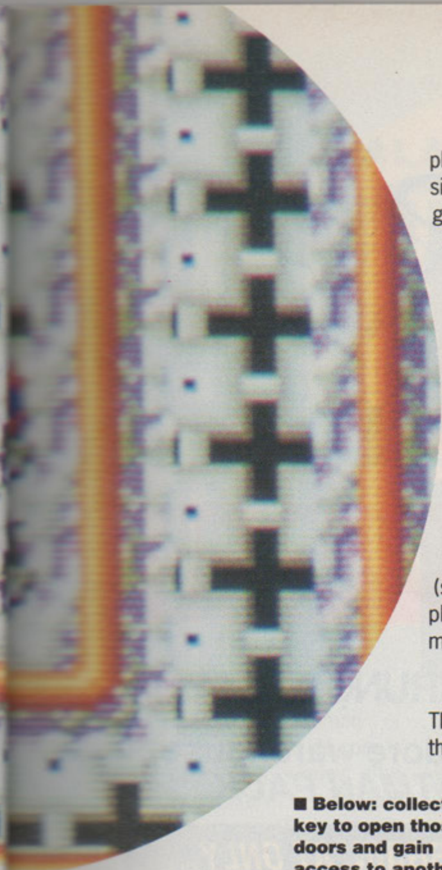
■ Rolling around in the game. In the fisrt picture you've no bounce so things are really tough. The last frame is the start of Level Two – ulp!





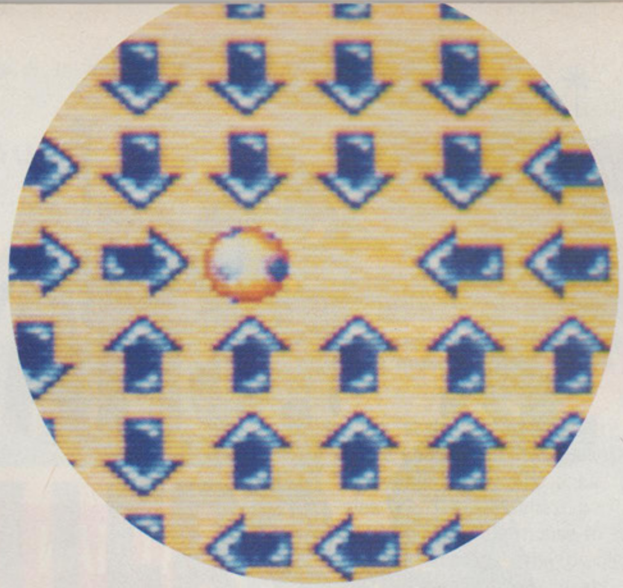






ple, a green key may be the other side of a hole and the only way to get to it is to buy a tile which you can then drop on the hole to get at the key – getting the picture? Other helpful things include spikes which allow you to manoeuvre with precision over ice, armour plating which allows you to bash through certain weak barriers and bombs which can used to blow holes in walls.

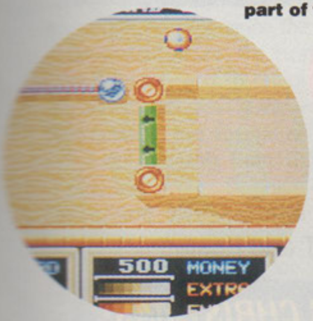
Cope with the problems, roll about collecting the gems for points and complete the level (some levels have to be completed within a time limit) and move on to the next: that's it.

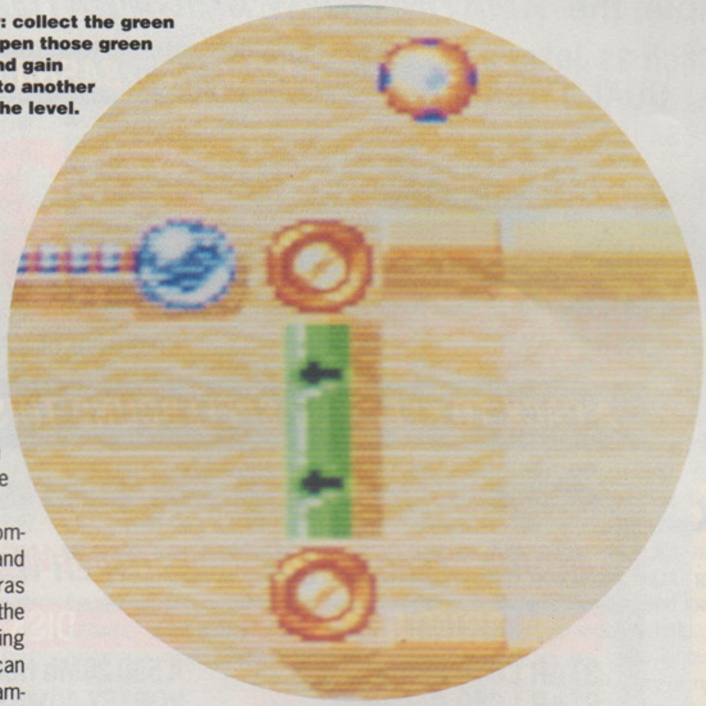


■ Trapped in a mass of ball-pushing arrows. The way out is a swift move to the right, thereby gaining enough inertia to carry you across.

GRAPHICS AND SOUND

The rock in the title refers to the rock tunes that play throughout the game – which can also be turned off – and as such they're fine. The spot effects are also all right. The game's graphics are very impressive, the animation is just right and the backgrounds for each level are varied and colourful.





■ Below: collect the green key to open those green doors and gain access to another part of the level.

you stand on them) and you can see there are going to be some serious problems created.

There's only one way to combat some of these things, and that's to buy yourself some extras from the various shops around the levels (you collect money by rolling over the coin symbols which can be found lying around). For exam-

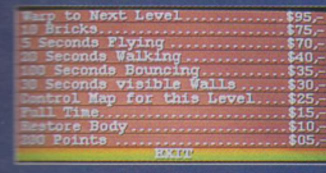
JUDGEMENT

Every level is a challenge and there are plenty of puzzles to keep you on your toes. Having to play your way through each level once you re-start the game is a slight niggle, but once you know your way round it becomes less of a problem. The thing that really makes the game though is the control, which is superb. If you're a puzzle solver who likes precise control, this is the sort of thing you're after. ***Andy Smith***

GRAPHICS	8
SOUND	7
INTELLECT	7
ADDICTION	8
OVERALL	86%

reduction of the time available).

The lands of Wrabis are not quite so straightforward, though. Several hazards await including disappearing tiles, invisible walls



■ In the extra features shop.

and patches of ice that are impossible to manoeuvre on. To make life easier you can pick up any of the helpful features (a big F on a tile signifies it contains a feature) such as legs that enable you to actually walk on the roadway instead of rolling along.

The only other way of gaining helpful extras is by rolling over dollar signs along the way, then stopping on a shop tile to buy the extras. The first extra you'll want is the bounce one which allows you to fall off the path and bounce straight back on.

Make it through the first land – for which you'll need to purchase several 'extra time' features – and things really start to get tricky. The path is made precarious by ramps, which always seem to be right next to a very small and thin bit of road, and which you always seem to come across just as your bounce power runs out. Then there are teleports which send you all over the level. Tricky stuff indeed. A nice touch is the password given to you at the end of each level which means you don't have to spend hours (literally) working your way back to where



■ Go over the F to get a feature.



■ Now try crossing that ice!

you got in the last game.

GRAPHICS AND SOUND

Although the marble is nicely shaded, there is no impression of rolling, which is a shame. The rest of the .graphics are good – although there are few of them – and everything is well animated. Sound is left to the minimum.

JUDGEMENT

The levels are very large and convoluted and more than just a little tricky so it's going to take you a long time to play through the whole game. To do that your determination level will have to be very high because to get the most out of this game you'll have to put some effort in. ***Andy Smith***

GRAPHICS	6
SOUND	3
INTELLECT	7
ADDICTION	7
OVERALL	73%



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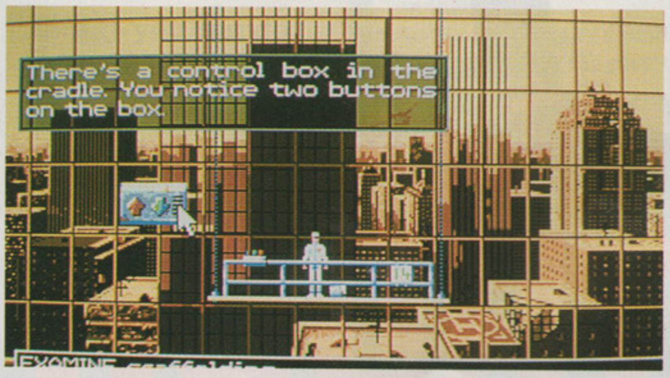
PALACE £24.95 ■ Mouse

FUTURE WARS: TIME TRAVELLERS



■ Caught in the middle ages with 'happy-go-lucky' monks.

As an everyday, common or garden window cleaner life sure is one big bore – one window after another after another – and when you're working on a skyscraper things are at their worst. What's needed is a splash of excitement in your life, to experience the thrill of the distant future, the pzazz of ancient history and to return safe and sound after 'saving the world'. Unfortunately, this voyage of wonder is not available from Thomas Cook, but from Delphine, via Palace, and their innovative system Cinematique.



■ Cleaning windows outside the skyscraper at the start of the game.

The basic scenario for *Time Travellers* is this: in the 43rd Century, the Earth is under attack from aliens. They can't get past the Earth's SDI defences so they travel back in time to sabotage the defences before they're built. You discover all this accidentally after you've played a prank on your boss and you then travel through the different time zones of Medieval, Ancient History and Distant Future. Your learning and survival dictate the future.

In the graphics department, *Future Wars* is the tops, with some of the nicest scenes you're likely to see in an adventure game. But these aren't always perfect, especially with some of the tiny 'graphically presented' items you are supposed to notice. Animation is quite smooth, which makes a pleasent change. In fact it's of high quality all round: awe inspiring at times.

The music is another good feature of *Future Wars* and has a distinct continental feel, which makes a nice change from the usual British and American electro-pop you find in most games. Add to this the good sound effects and you won't be turning the sound down, in case you miss a good grunt, growl or stomp.

It's an atmospheric game in places but there are times when you aren't sucked into the game as much as you should be. Possibly it's the lack of text that sometimes fails to set the imagination on fire: either way it's not much of a 'just one more go' game, and the slow save and load routine doesn't do much to help.

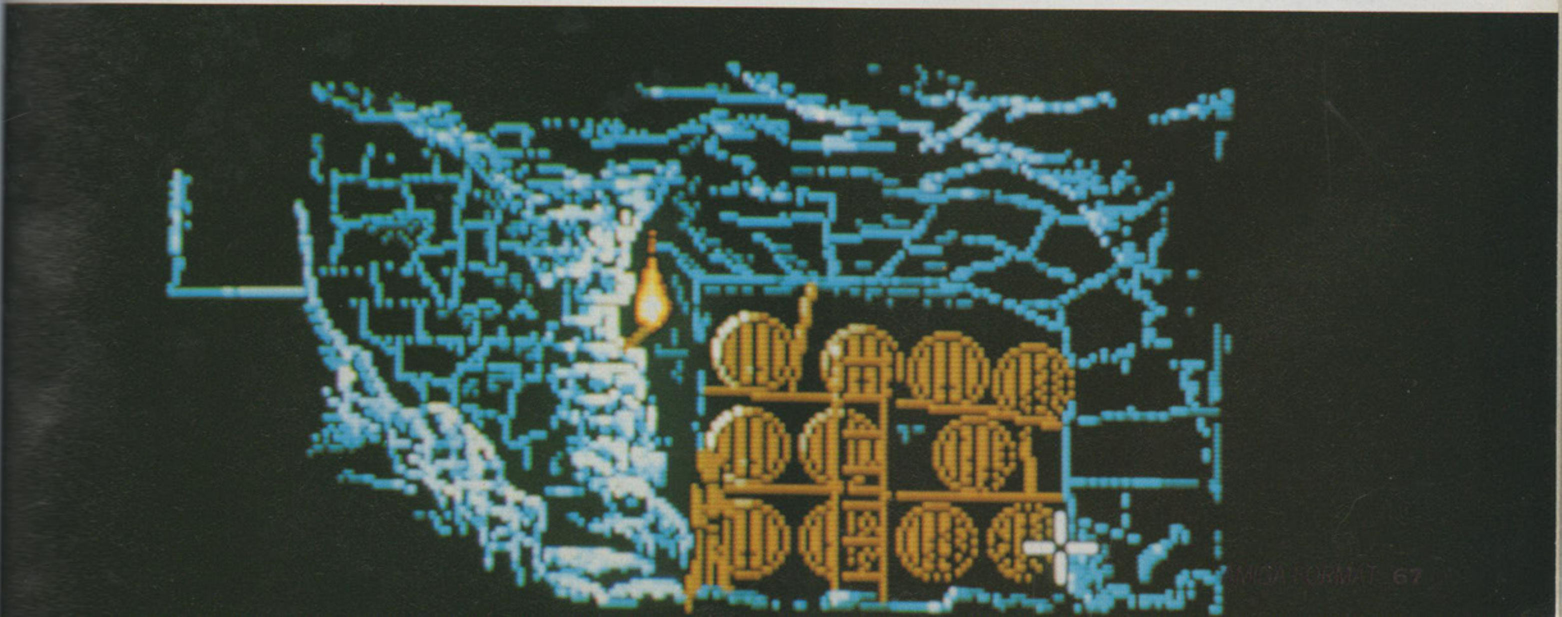
The puzzles are quite innovative in places although they're not incredibly brain straining. Usually a quick scan of your inventory will come up with the obvious solution to your problem. The actual puzzles aren't the toughest part: it's trying to wield the mouse to solve them that causes the problems. Using the mouse might be expected to simplify things but in *Future Wars* it often causes grief.

The game system, 'Cinematique', is claimed to be "the system of the 1990s" and it is extremely useful in places although it does tend to bog itself down in others. Action choices are pitifully few and the control is not as smooth as it could be: sometimes you can move just a little too far and the game isn't tolerant of even the slightest mistake. The main problem however is the objects, or finding them. If your TV is even the slightest bit dodgy, then you may have trouble noticing certain items which are only a pixel or two large.

This potentially excellent game with a decent plot and stunning graphics is let down by the over-picky game system. Even so it's a good game and worthy of a close look. The system of the 1990s? It certainly has the potential and, with a little tweaking, could well be. ***Nick Walkland***

GRAPHICS	9
SOUND	8
INTELLECT	8
ADDICTION	7
OVERALL	84%

■ Below: what every time traveller likes, a well stocked cellar.

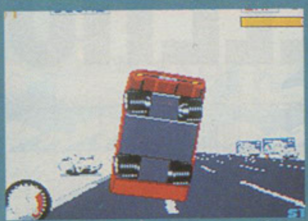




■ The start of the race. Already you're winding the machine up to speed and barrelling (groan!) through the stage with turbo blazing.



■ Another state and one in which the local police force (who don't like speedsters) do their best to stop you reaching the checkpoint.



■ Oo-er! You're too eager, and the car's gone out of control.



■ Off the road again: and this time drifting into the snow.

TURBO OUTRUN

US GOLD £19.99 ■ Joystick

One of the best car driving coin-ops a couple of years ago had to be Sega's *Out Run*, a game that boasted superb graphics and terrific playability. US Gold grabbed the rights and put out a not-too-hot conversion of the game which sold surprisingly well considering the poor quality of the translation.

Sega's attempt to cash in on the original appeared last year in the shape of *Turbo Out Run* and once again US Gold have aquired the rights. Two years ago the car of the moment was the Ferrari Testarossa, which was featured in the coin-op: last year it was still a Ferrari, but one of the limited edition F40s (with a price tag of over £600,000 it's no wonder they didn't make too many of them!)

Drive your F40, viewed from behind and slightly above, through 16 stages of American cities and countryside which continually scroll towards you. The idea is to make it to the end of the stage before the time limit runs out and you lose one of your four credits. This isn't particularly easy when you consider just how convoluted some of the stages are and the number of other road users there are to avoid. Colliding with them causes your car to lose speed and, consequently, time as you build it back up again.

The road users may be annoying but at least they don't cause you to go flying through the air and lose vast amounts of time, which is exactly what happens when you collide too heavily with the roadside obstacles such as trees and bill boards. Just clip one, however, and you might only go into a spin which is recoverable from without too much trouble.

To help you through the stages your car's fitted with a turbo button which can be hit to get that extra bit of boost. Unfortunately it can't be activated any old time, because when it's on your engine heats up and as soon as the gauge displayed on the top right of the screen reaches the top it cuts out and can't be turned on again until the engine has cooled sufficently. You'll find you really need the turbo boost just when you can't have it: for example when you're being chased down the road by the police.

Lots of the original game's features are also included in the sequel, like the occasional route choice. There are some extra features too like tumbleweed and wooden road barriers to drive through and humps in the road that bounce your car around. The biggest difference, though, is the ability to upgrade your car every four stages: you can have a more powerful engine, super turbo boost and better tyres, but note, you can only have them fitted once. Make it right across the states from New York to Los Angeles and you can go back and do it all over again.



■ Every four stages you get the chance to enhance your car. Choose the right power-up at the right time, though (tyres first).

GRAPHICS AND SOUND

Typical coin-op tunes and occasional spot effects, both of which are fine. The graphics are fine too, although a little jerky, but there's plenty of detail. There are some nice graphical touches like the blizzards and sand storms that blow across the road in some stages. Looks good.

JUDGEMENT

A vast improvement on the original conversions. Still not a brilliant game because although there's a better impression of speed it's still lacking. You do seem to be flung around the corners rather erratically, too, and the collision detection is a bit iffy at times. All in all it's not a bad racing game but it's not outstanding either.

Andy Smith

GRAPHICS	7
SOUND	7
INTELLECT	2
ADDICTION	7
OVERALL	70%



NORTH AND SOUTH

INFOGRAMES £24.99 ■ Mouse and Joystick



Just another game based on the American Civil War? Not quite. It's an interpretation of the cult French comic Les Tuniques Bleues, which is based on the US Civil War.

It's a simple one or two player wargame in which the ultimate aim is to destroy the opponent's armies. Both sides start with two armies (each made up of six infantry, three cavalry and one artillery unit) and more armies are gained by primarily occupying territories which form a rail link from one major city to another. This way trains can run between the cities and trade can occur which earns you money in the form of sacks of gold: once you have five sacks, you automatically gain another army.

The only other way of gaining an army is by owning the state of North Carolina, because every five turns or so a ship will drop off into that state an army of whichever colour happens to own it at the time. From a strategic point of



■ **The arcade battle sequence.**

view, one of the first things to do is try and stop the enemy from receiving more armies, either by occupying North Carolina or by cutting his rail routes (or preferably even both).

Cut the rail route and you enter the first of the game's three arcade sequences where you control a soldier as he rides alongside the train. Jump onto the train and make it to the engine before the

ELECTRONIC ARTS £24.99 ■ Joystick and/or Keyboard

SWORDS OF TWILIGHT

The land of Albion is under threat from the evil Shadow Lords who have managed to bring chaos and other nasty things to the seven other lands in this role-playing game from the people who designed that classic thought provoker, *Archon*.

Up to three people can play at once, each controlling a character from a choice of over thirty, and the ultimate quest in the game is to recover the Swords of Twilight and thus prevent the Shadow Lords from infecting the land. The characters available include knights (who are always handy to have around just in case there's fighting to be done) and mages (who are the best when it comes to chucking magic spells about).

The game opens at the castle of the Queen of Albion, who asks you to complete a small quest. Exactly what you decide to do is up to you: the game can be played by simply completing these smaller quests and returning home, or by ignoring the Queen and going off on your own to seek adventure. Bear in mind that, whatever you decide to do, your mates will have to go along with you.

The screen is divided into five sections. The main central display shows your band of adventurers



■ **Conversing with computer controlled characters inside a building. Can you trust them?**

as they move around inside buildings or around the countryside. There are two display modes when you're travelling round: normal-sized inside buildings and huge when you're moving about the countryside, the same method used in the *Ultima* series of games. The four surrounding windows each show a member of your party along with text messages when anyone speaks, though the fourth is reserved for a picture of any other character encountered.

The eight lands are connected by a roadway which is accessed by entering one of the gates in the land. Travel along the road and the worlds pass by in different colours: then all you have to do is hit the fire button to step off when you reach the world that's the colour you want.



■ **(Inset) Get past the dragon and you can then travel the road connecting the lands.**



■ Keep the railroads open!



■ Reinforcements in N. Carolina.

time limit expires, without being killed by falling off of the train or being hit by the enemy soldiers, and you cut the route and take the other player's gold.

The other arcade sequences include capturing an enemy fort – which is similar to taking the train – and battles. During a conflict, the player has direct control over one of three types of unit: control between the units is simply switched by hitting a key. You must try to wipe out the enemy, before they do the same to you.

All the arcade sequences can be turned off at the start of the game if you wish to play the strategy game, and the outcome of battles and the rest is decided on the size of the forces and the competence of the leader.

There are several difficulty levels in the game, to suit most players' abilities: for example, starting the game in the year 1864 as opposed to the default 1861 gives the south a distinct disadvantage. You could also have Indian and Mexican intruders who get upset when there is too much commotion coming from their neighbouring territories and so occasionally join in the fray.

GRAPHICS AND SOUND

Both are great. The cartoon book feel of the game gives it immense appeal and everything is well drawn and animated. The high-quality sound effects do their bit to complement the action.

JUDGEMENT

It's simple stuff, but very enjoyable. The computer opponent is not the world's smartest, so it's not too difficult to beat. Play against a human with the arcade sequences turned on and things become a lot more interesting.

Andy Smith

GRAPHICS	8
SOUND	7
INTELLECT	4
ADDICTION	7
OVERALL	74%

Once your band comes across other characters, the first thing to do is check their attitude: if you think a fight might be on, change your characters' attitudes to hostile rather than polite. Of course you'll have to use your skill and judgement when dealing with other folk, because the big point about the game is that all of your actions have consequences and people remember good or bad deeds done to them for a very long time.

The majority of the other commands available are to do with talking to the characters and offering answers. And there you have it: a world in which you can do exactly what you want to do.

GRAPHICS AND SOUND

The in-game sound is simply appalling, so turn it off when you start playing. The cameos for each of the characters encountered in the game are great but the rest of the graphics, backgrounds and so on are very basic. The scrolling and animation are also weak.

JUDGEMENT

This sort of game doesn't need good graphics and sound, but what it does need is a believable game world. *Swords of Twilight* has one all right, but there are some very annoying parts to it that severely mar the enjoyment. This is especially true in one player mode, where it can be very tricky to get the other characters to, say, walk



■ Eventually you come out into the open, to find that your characters adopt giant prportions.

through a door first because they have the key and you don't. Another annoying factor is the amount of waiting that has to be endured while the computer puts up the face of a computer party. It's certainly not trash, but it's not up there with the classics either.

Andy Smith

GRAPHICS	5
SOUND	1
INTELLECT	6
ADDICTION	7
OVERALL	68%

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GHOSTBUSTERS II

ACTIVISION £24.95 ■ Joystick

Five years later and once again the world is under threat. Evil slime has been building up under the city of New York ever since the intrepid Ghostbusters saved the world all those years ago and now, thanks to Vigo the Carpathian who's an evil spirit determined to live again through the baby of one of the GBs' friends, evil looks likely to burst forth and have us all wishing we'd never been born.

The game is divided into three major parts: the first part has you controlling a GB as he descends into the Van Horne airshaft to collect some slime. The problem is, the shaft is full of nasty ghosts that appear from above and below and from out of the walls. Everyone knows ghosts can't really hurt you, but what they can do is scare you, so as the chappie descends, every time he gets hit by a ghost he loses a little courage (displayed to the right of the main display) and once he gets completely scared he falls off of the cable holding him and into the river of slime at the bottom, removing one of his three lives.

He can also fall off by having his cable cut by sawing ghosts. These customers attack the cable until destroyed by either the Proton beam or a PKR bomb. Bombs and shields can be collected during the descent by swinging the Ghostbuster from side to side and picking them up: bottles of elixir to restore courage are also collected in this way, as are the three parts of the scoop that are needed to get the slime. Make it to the bottom and fill the container with slime and you then go into the next section.

Here the Statue of Liberty has come to life and the race is on to make it to the Museum of Art before the New Year arrives. It's a horizontally-scrolling shoot-em-up where the player controls the statue's torch which fires bolts of flame that destroy the flying and walking ghosts and turn them into slime which the people at the statue's feet collect and return to the statue, for it to keep moving.

Make it to the Museum and you're then into the final part of the game in which you control all of the Ghostbusters as they abseil in and try to rescue the baby Oscar and destroy Vigol: for ever?

GRAPHICS AND SOUND

There are some nice digitised shots and speech between the levels and the rest of the game looks good and is well animated (especially the little people in the second section). Again, the sound effects and title music are fine.

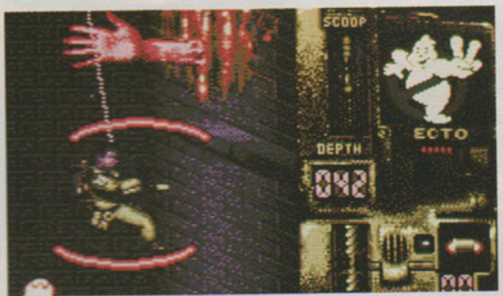
JUDGEMENT

The game is a good translation of the film and a worthy successor to the original game. As a game in its own right it's not the best ever written, but it is a lot of fun and'll keep you playing for some while.

Andy Smith



■ Half way down and a ghostly hand makes a grab.



■ With a PKR shield, things are much easier.



■ The bottom of the shaft: now quickly fill up with slime and get outta there!




■ Above: collect the slime to keep the statue moving and get to that Museum of Art smartish (easier said than done!).

GRAPHICS	8
SOUND	7
INTELLECT	4
ADDICTION	7
OVERALL	79%


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■ The dudes go over a waterfall – watch out for the rocks to come.



■ On Mars there are cans and a patch but a gun turret to avoid also.



■ A can hurtles at the fisherman, but you've been grabbed by the alligator.

TOOBIN'

TENGEN/DOMARK £19.99

■ Joystick or Keyboard

The Japanese are renowned for coming up with abstract, off-the-wall game ideas like bubble-blowing dinosaurs in *Bubble Bobble* and the brothers Mario in their surreal world. The 'tubular dudes' are in keeping with the tradition: two dudes in tyre inner tubes paddling their way down rivers.

The dudes in question are Biff and Jet, supposedly on a hunt for the most outrageous party they can find: but it's more like scenes from Deliverance than a party. The rivers scroll vertically up the screen while the dudes paddle about in their tubes.

The tube control is awkward at first but a bit of practice makes it a very enjoyable method: paddling left or right spins in that direction, both together push the tube straight forward and you can also paddle backwards.

There you are playfully paddling when all sorts of uncool things start trying to puncture the tubes. Like, totally non-mellow man. There are different types of river section, each with their own hazards. The Yukon has icebergs and dive-bombing penguins, there's sewage and mines in a city stretch, even deadly skulls on a red Martian river.

There are lots of different obstacles on all the rivers: bushes, logs and rocks abound. On the banks there are fishermen, eskimoes, sphinxes and punks that hurl objects at you. The dudes are armed with cans to throw, that will remove or freeze all the dangers. However, there is a limited supply of cans and more have to be picked up floating in the river.

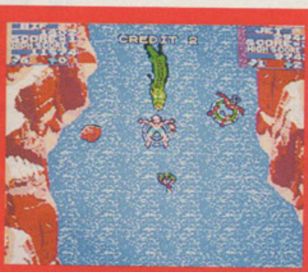
As well as the cans there are beach balls, treasure chests and patches to be picked up. Shooting bushes can also reveal these objects or letters to form the word Toobin'. The beach balls enhance control over the tube and the patches are used up every time something punctures it.

One constant threat is the alligator that appears at the top of the screen and pursues the dudes until they go through a points scoring gate or it catches them.

In between river sections there is a section of rapids that carries you automatically through, as do waterfalls that crop up in the middle of stages.



■ The dudes have missed a patch, but points are ahead.



■ Here's an imminent sinking from alligator, boulder or bush.



■ A hippo paddles past while a tin can takes out the bush.



■ Grab that 'N' and watch out for those Martian killers.

GRAPHICS AND SOUND

It's not overly impressive graphically because everything is small. However, there are many characters in the stages, all detailed and animated. The tube-dudes themselves are probably the best part about it. Scrolling is smooth and varies in speed with the dudes.



■ Stuck on rocks in the jungle.

The music is a lot of fun: mostly cheery, happy tunes that bopple along and are in keeping with the game's atmosphere, with eerie music for the Mars and swamp rivers.

JUDGEMENT

It's tricky to get to grips with the tube controls but their unusual nature and responsiveness is a boon in the long run. Simple gameplay makes it a lot of fun to start with, tailing off after a while because there isn't much depth to it. The two-player game is more fun as the dudes compete for bonuses and bounce around.

Bob Wade

GRAPHICS	5
SOUND	8
INTELLECT	2
ADDICTION	7
OVERALL	72%

GRAND PRIX MASTER

DINAMIC £19.95 ■ Joystick

Endorsed by Jorge 'Aspar' Martinez, something of a big fish in the small pond of 80cc motorcycle racing, is this viewed-from-above bike game that allows you to race around seven world-famous tracks including Suzuka in Japan and Jerez in Portugal.

There are warm-up laps and a qualifier, because only eight of the 12 competitors actually get to race round the course. Complete the race, win some points and become Champion.

That was the good bit. The bike's control is not too good and it's especially annoying to be reduced to a pile of blood and metal every time you have a slight meeting with another rider.

This is not good stuff: the graphics are fine and everything is well animated, but the gameplay is so poor it's doubtful you'd bother to finish a season. ***Andy Smith***

GRAPHICS	7
SOUND	5
INTELLECT	2
ADDICTION	3
OVERALL	24%

SAFARI GUNS

INFOGRAMES £19.99 ■ Mouse

An ecologically sound game, this one. There you are in Africa on a 'big game' shoot: but the shooting is all done with a camera. The idea is to use up your roll of 24 shots per level and get paid at the end of the stage for the photos. Make enough money (points) and you can go on to the next level. It's not that easy, though, because each level is swarming with poachers who take pot-shots at you, removing one of your five lives.

You are armed with a gun so you can shoot them first if you're quick enough to click the cross-hair on the gun icon at the base of the screen. It's a bit like *Operation Wolf* without any of the inherent violent tendencies. It also lacks the good gameplay unfortunately, so it won't take you terribly long to get bored with it. All in all, this is a nice game but with a gameplaying lifespan of about five minutes. ***Andy Smith***

GRAPHICS	8
SOUND	7
INTELLECT	1
ADDICTION	5
OVERALL	42%

SPORTING TRIANGLES

CDS £19.99 ■ Keyboard

One, two or three players can compete in this sports trivia game based on Central TV's quiz show.

There are several rounds to compete in (the time limit for answering can be user defined) and each contestant is asked questions individually (except for the last, quick fire round) and the idea is for the contestant to shout out the answer and then hit the space bar to reveal the answer and tell the computer whether he was right or not.

There are twelve specialist sports to choose from at the start of the contest and the questions on each are definitely for the person who knows his onions.

If you like trivia games – and sports ones especially – then you could have a lot of fun, but if you don't like trivia games and you don't take too much interest in sport then you'd be wasting your time with this. Otherwise, the fairest thing that can be said is that it's fine if you like this sort of thing. 'Nuff said. ***Andy Smith***

GRAPHICS	6
SOUND	6
INTELLECT	4
ADDICTION	6
OVERALL	65%

STORMLORD

HEWSON £24.99 ■ Joystick

Trouble is up in the land of the faeries: they have all been captured and imprisoned. To save everyone from a terrible fate you have to release them all.

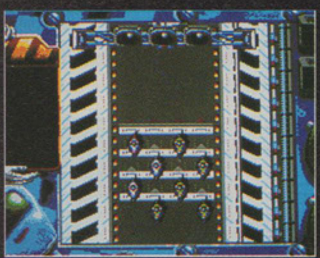
Each level of the game has five faeries to be rescued, merely by touching them. To get to them you have to solve many problems in a plain, old-fashioned arcade adventure style.

There are keys to unlock doors, jars of honey to draw away deadly swarms of bees, umbrellas to protect against killer rain and so on. There is also a neat teleport system where you are carried around by an eagle.

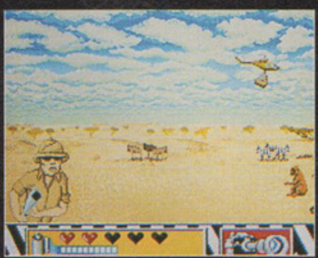
You can jump and shoot, which are very necessary for dealing with flying dragons, walking skeletons and demons that hatch from eggs. There are timing problems too, just to complete the arcade-adventure feel.

The gameplay betrays the game's 8-bit origins but the graphics have been considerably improved. The combination of exploration, puzzle solving and some shooting works well, and there are enough levels to make it a challenge. ***Bob Wade***

GRAPHICS	7
SOUND	6
INTELLECT	4
ADDICTION	6
OVERALL	62%



■ ***Grand Prix Master:*** **on the starting grid in pole position.**



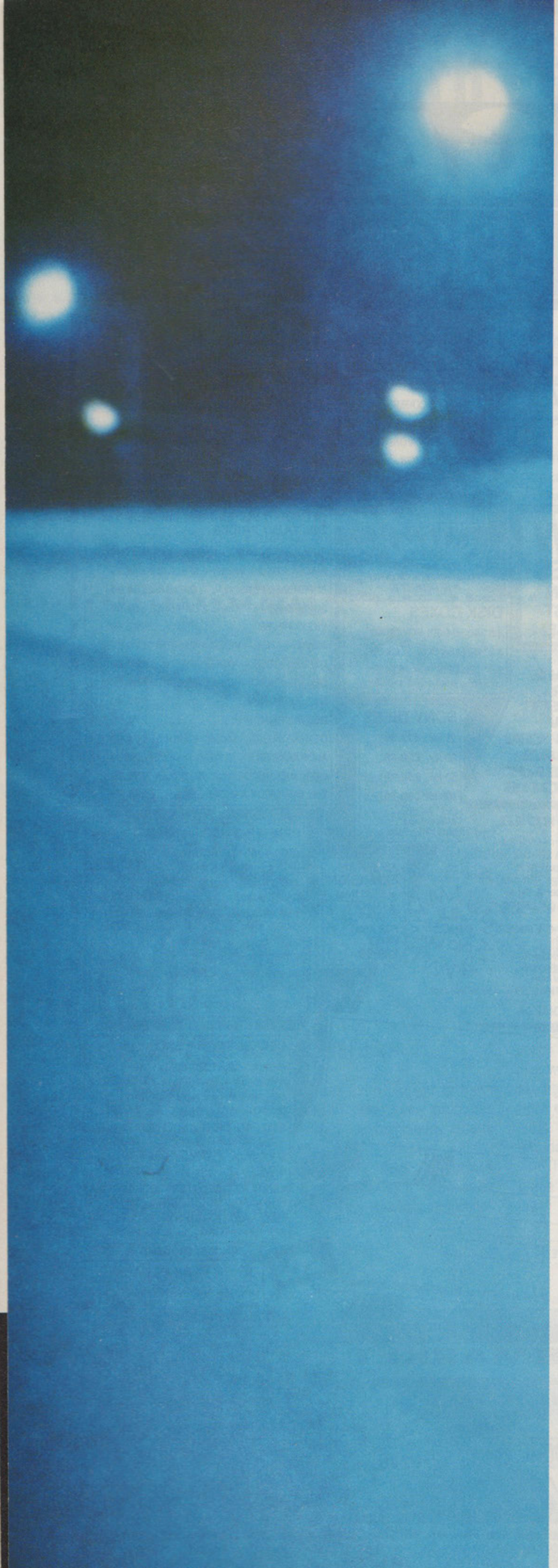
■ ***Safari Guns:*** **a poacher pops up in front of you, so shoot him!**



■ ***Sporting Triangles:*** **eerrm... something of a poser, this one...**



■ ***Stormlord:*** **clasped in the grips of the eagle transporter.**



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Who's bad? US Gold and Michael Jackson, that's who. Together they have produced *Moonwalker* the computer game, based on Michael's film.

It was Jackson's first feature film, although he had produced the extended video for Thriller and a 3D short for Disney. Many of the songs from the movie have already become hits and now the game is here to do the same.

What better prize for such a musical competition than the state of the art in personal hi-fi, a Sony Discman worth well over £300. Of course you're going to need something to put in it so there's a selection of Michael Jackson's CDs to play on it as well. There's also a *Moonwalker* T-shirt so that you can look the part too. Last but not least is a copy of the game itself so you can play and listen at the same time. And that's just the first prize – there are also 25 runner-up packs of the T-shirt, a badge and a copy of the game.

HOW TO ENTER

Write the answers to the following three questions on the back of a postcard or stuck-down envelope and send it to: *Moonwalker* Comp, *Amiga Format*, 4 Queen Street, Bath BA1 1EJ. The entries should reach us by January 20th and don't forget to include your name, address and phone number on the postcard.

QUESTIONS

1.What animal suit does Michael wear in the game and the film?
- **a) Wombat**
- **b) Pterodactyl**
- **c) Rabbit**

2.What is the evil drug baron's name?
- **a) Mr Magoo**
- **b) Mr Big**
- **c) Mrs Miggins**

3.What does Michael lose in the game when the bad guys catch him?
- **a) Money**
- **b) Platinum disks**
- **c) Sequins**

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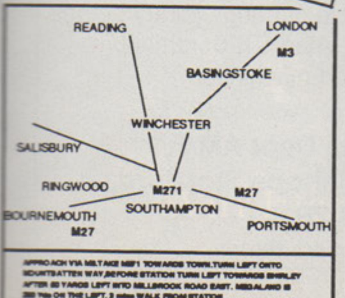
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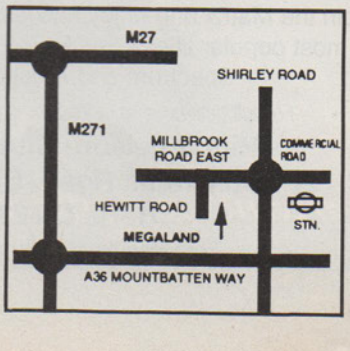
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ACQUISITION

***Acquisition* is a database with a difference – it allows you to use pictures and sounds as well as data. When it was reviewed in Issue 6 of *ST/Amiga Format* these were just some of the things that were said in its favour – "fully relational structure", "a powerful programming language", "flexibility of structure as database evolves", "is among the most powerful database systems for any of the so-called 'home' micros" – clearly a database to be reckoned with.**

Track Computer Systems have completely lost their minds. What sane person would give away Superpic, the fab digitiser worth £600, and five copies of *Acquisition 1.3*, the database that can store pictures and sounds as well as data, worth £250 each? Well it's true – so don't look a gift horse in the mouth, get entering.

The first prize is Superpic and there are five runners-up prizes of *Acquisition 1.3*. The winners being the first out of the hat with the right answer to the following questions.

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Write the answers to the following three questions on the back of a postcard or stuck-down envelope and send it to: Track Comp, *Amiga Format*, 30 Monmouth Street, Bath, Avon BA1 2AP. The entries should reach us by January 20th and don't forget to include your name, address and phone number on the postcard.

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- **a) John Constable**
- **b) Leonardo Da Vinci**
- **c) Wakelin**

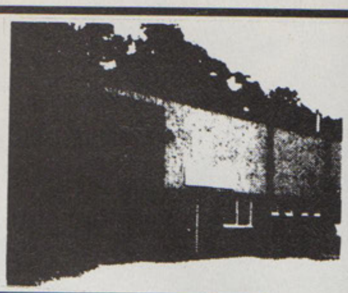
2. Who painted the ceiling of the Sistine chapel?
- **a) Leonardo Da Vinci**
- **b) Michelangelo**
- **c) Steinar Lund**

3. Who painted the Campbell's soup tin?
- **a) Mr Campbell**
- **b) Leonardo Da Vinci**
- **c) Andy Warhol**

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● **A13** - Publishing Partner disk 1. 6 fonts: Hudson, Columbia, Devoll, Thames, Spokane and Saturn.
● **A38** - Publishing Partner disk 2. 6 fonts: Caligrify, Elegance, Courier, Roman Bookface, Westside and Avant Garde.
● **A95** - Publishing Partner disk 3. 6 fonts: Artist, Broadway, Letter Gothic, Oriental, Ultra Block and Wilkes-Barres.
● **127** - Publishing Partner/PageStream disk 4. 1 PP font: Creative. 5 PS fonts: Futura, HLVB, Lubalin, Script and HAL.
● **A137** - OVER 40 GEM GDOS FONTS: 8X8, 9X14, COMPUTER, DEVILLE, EDITOR, HAMPTON, OFFICE, SCRIBE, SPECTRUM, TIMES, UTOPIA, WESTERN, DLAN1, FAT, TEST, COMPUT, NORMAL, THIN, BOECKEL, BRUSH, CHICAGO, DOUBLE, ENGLISH, EVIDENCE, FUTUR-BIG, GRANDE, INTEL, MAGNETIC, MEISTER, MINIPOOL, MODERN, ROTONORM, STENCIL, XANTHUS, BLUB, ROT, INTEL16, GOTH22, GOTH22SH, NEWSTAND, MONICA, PC1500, SERIF30, AKASHI12, CAIRO, CHICAGO, COURIER, GENEVA9, LONDON, MOBILE, NEWYORCK, PREMIERE, TIMES09, TIMES10, TIMES12, TIMES14, TIMES18, TIMES24, DUTCH10E, DUTCH10N, DUTCH12E, DUTCH12N, DUTCH18E.
● **A110** - Calamus Fonts disk 1. 10 fonts: Cursive, Facade, Fura, Greeny2, Hebrewy, Manvilly, Math, Peignoy, Silicy and Steely.
● **A135** - Font Master GDOS font editor.
● **A63 and A64** - FontKit V3.31 Epson, Degas and ST font editor.

CLIP ART DISKS

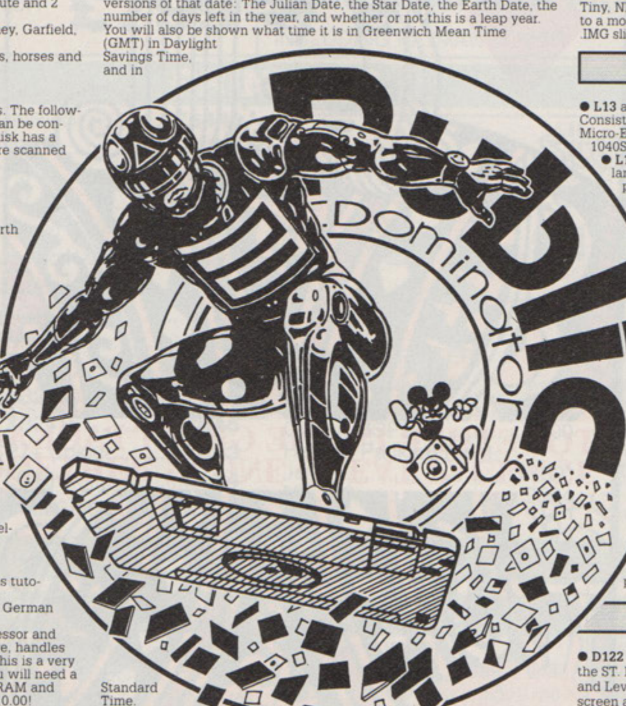
● **A36** - Clip Art 1 - Degas format - mainly animals, sports, Walt Disney and cars.
● **A37** - Clip Art 2 - Degas format - mainly Christmas, animals, military, Atari, Commodore, flags and Zodiac.
● **A65** - Clip Art 3 - Degas format - mainly 1930's trademarks.
● **A77** - Clip Art 4 - Degas format - mainly Althabets, Easter, Christmas, Borders, animals and famous people.
● **A78** - Clip Art 5 - Degas format - mainly Pixies, titles, Halloween, Valentines and Jewish.
● **A79** - Clip Art 6 - Degas format - mainly Sports.
● **A80** - Clip Art 7 - Degas format - mainly whymsical and cute and 2 good althabets.
● **A115** - Clip Art 8 - Degas format - mainly Atari, Walt Disney, Garfield, pointing hands, robots, hands.
● **A116** - Clip Art 9 - Degas format - mainly faces, Christmas, horses and eyes.
● **A117** - Clip Art 10 - Degas format - mainly alphabets.
● **A129** - Clip Art 11 - 42 .GEM pictures.
● **A130** - Clip Art 12 - 47 .IMG pictures and 5 .GEM pictures. The following clip art disks (13 - 25) contain .IMG format files which can be converted to other formats using disks GR20 and GR17. Each disk has a slide show program for viewing the images. All images were scanned at 200 x 200 resolution.
ALL ARE DOUBLE SIDED DISKS
● **A140** - Clip Art 13 - decorative scrolls.
● **A141** - Clip Art 14 - decorative scrolls.
● **A142** - Clip Art 15 - 19th century characters (men).
● **A143** - Clip Art 16 - 19th century characters including north and south American indians.
● **A144 - Clip Art 17** - 19th century characters including Turkish/Asian.
● **A145** - Clip Art 18 - Statues.
● **A146** - Clip Art 19 - Statues.
● **A147** - Clip Art 20 - 19th century characters.
● **A148** - Clip Art 21 - 19th century characters (men).
● **A149** - Clip Art 22 - 19th century characters, scrolls and Einstein.
● **A150** - Clip Art 23 - a variety of comical/cartoonist.
● **A151** - Clip Art 24 - happy/celebrating people.
● **A152** - CLip Art 25 - Miscellaneous, photos, cartoon and Roger Rabbit
● **A87** - Electronic Bank Statement the excellent accounts

APPLICATION DISKS

package from Budgie UK.
● **A96** - DOUBLE SIDED DISK. Sheet v2.0. powerful all features spreadsheet, includes documentation and tutorial.
● **A121** - POOLS - Expert Results Predictor v2.0 by B.Campbell very good. Programmer claims it to be more intelligent than the commercial ones.
● **W2** - STwriter 'Elite' the excellent word processor, that includes manual and tutorial files.
● **W5** - Micro-Emacs editor V3.925 full screen editor includes tutorial and manual files.
● **W13** - DOUBLE SIDED DISK. STWriter Elite V3.0, English, German and Spanish versions. Includes document files etc.
● **MP21** - 4 DOUBLE SIDED DISKS. TEX the document processor and typesetting system. TEX has its own programming language, handles equations and diagrams, and has a large set of typefaces. This is a very powerful piece of software. TEX is not a wordprocessor, you will need a text editor such as Micro EMACS (disk W5). Requires 1Mb RAM and comes on 4 double sided disks with a Mega Pack price of £10.00!
● **A125** - DOUBLE SIDED DISK. REQUIRES 1MB. Opus V2.10 of the spreadsheet and charting program. This package is incredible! Requires GDOS which is not PD.
● **A138** - Double Sentry V0.00 the accounting program by Graham R Hutcheon. This is a fully working version that does all aspects of accounts accept VAT, although a VAT version is available. Excellent.

UTILITY DISKS

● **A31** - This disk contains the following 1st Word printer driver files: SG10STAR, KXP1091C, PR1215, PROWRT, EPHEBREW, ST130, ESFX80, PAN109B, OLYMPIA, EPS-RX80, LQ800_G, PAN109,GEMINI, LQ800, SG10-GPH, EPS-LX80, OKI192, LX80-G, BRO10P, BRO12P, BRO15P, BRO-HR15, T321SLF, QUME, SG10TEWF, PROWR1ST, SG10IBM, OKI92,ASCII, 1STNX1, SG10-1ST, SLMM804, SMM804-G, NEC-P6, SLM804, CITOH.
● **A40** - Hard Disk disk 1: Directory counter, Gem Soft a 40 folder fix, Hard Auto, SBackup, Turtle backup v3.01 and UNTurtle restore v1.1.
● **A52** - Hard Disk disk 2: FolderXXX allows you to specify upto 999 folders - a 40 folders fix, an excellent directory lister, Hard Disk Install, Hard Disk Auto boot, and other HD utilities.
● **A41** - Monochrome emulator version 5. Run monochrome programs on a colour monitor. TOS 1.09 compatible. CMFonts converts Macintosh fonts to ST GDOS format.
● **A51** - This disk is packed full of Comms programs. They have all been ARChived down to save space. The following is a list of the .ARC files: Gas Term, BMODEM, Solar Term, Terminal, My Term, STerm, Con_ST, STar Term, Term_c, Jam Term, GEM Term and XMODEM Term. Also on the disk a program to unARC them.
● **A88** - Double Click Format v3.03 THE ST disk formatter 9/10 sector, 80/82 tracks, regular/fast format. Can format Spectre 128 disks, place MSDOS boot sector, it can write an executable bootsector to do thngs like bypass HD autoboot, setime time, run a program that you write and call COMMAND.PRG and loads of other things. Meg A Minute Elite v2.1, TOS 1.09 compatible 1Mb a minute HD backup.
● **A90** - Superboot v5.5 THE ST Boot program - choose: desktop accessories, AUTO programs to run, DESKTOP.INF, GDOS ASSIGN.SYS, display a welcome screen, date/time setter, inforce a password on booting and loads more including even stopping Super Boot from running with a 'key hold' includes a 50K document file, excellent.
● **A97** - Sticker III. THE disk label program full GEM includes dozens of icon graphics that can be included in label. Monochrome monitor required.
● **A109** - Quick Disk. Quick Find v1.5 is a program developed for locating files. it allows any number of drives to be searched, producing output which can be printed to screen, printer or file. Quick Index v1.5 - the ST System Performance Evaluation Program, Quick ST v1.2 the screen accelerator for all Atari ST computers, Quick View v1.3 excellent document browser. Quick Inf V1.3 is a program developed primarily to allow the user to change the desktop window directory search masks. Quick Label V1.1 the label utility. Quick Print.
● **A111** - Head Start v1.1 allows you to auto-boot any type of program from your AUTO folder, including GEM programs. you can choose from among a list of up to auto-boot, using the mouse.
● **A124** - ARChiver: ARC V5.21b, ARCShell V2.0 and V2.05 and a utility to switch back and forth between LHARC and ARC.DAYS2 reads in the computer's time and date, and then presents you with various alternate versions of that date: The Julian Date, the Star Date, the Earth Date, the number of days left in the year, and whether or not this is a leap year. You will also be shown what time it is in Greenwich Mean Time (GMT) in Daylight Savings Time, and in



Standard Time.
● **STW41** - FSelect v3.89, ICone.Acc and ACache. As featured in Issue 41 of ST World.
● **A126** - Desk Manager V2.6 will auto select the correct DESKTOP.INF depending on the resolution and select AUTO programs, The Little Green Selector V1.6 is another alternative file selector that includes a FIND option and is excellent. Pack and UNPack will compress a program file and still make it executable! Pin Head V1.4 is a program that speeds up file loading.
● **A128** - Recover is a program that copies any number of specified sectors on a disk to a named file on another disk, this is very useful if you have garbaged you directory or part of your disk. BootInfo allows you to put any text on screen at boot up.
● **A134** - Boot Drive Select allows you to select a drive to boot from when you reset your ST. GrafTool allows you to type in mathematical functions of one variable and graph them. Chart Maker allows you to input data and it will draw a graph.
● **A136** - The British Telecom Inland Call Calculator v1.02 is a telephone call cost calculator.
● **DA9** - DOSACC V2.6g the desktop accessory that basically it displays just about everything the user needs to know, and allows the setting of most ST and printer configurations.



DiskX on disk FAUG67

GAME DISKS

Budgie UK P.D. Licenseware games:
● **G17** -Damonoid - arcade.
● **G18** - Football - speculation game.
● **G19** - Blitz III - arcade.
● **G20** - Othello - board game.
● **G33** - Doctor Boris and Puzzler - TNT
● **G36** - Tycoon - Adventure/simulation.
● **G38** - MoneySpinner - slot machine.
● **G39** - Ace Invaders - arcade.
● **G40** - Zenith - arcade.
● **G41** - MaelStrom - arcade.
● **G42** - Speculator - simulation.
● **G45** - Zephod and Gold Rush - labyrinth.
● **G54** - Line of Four - connect.
● **G55** - Word Puzzle generator.
● **G56** - Make a Break - Quiz.
● **G57** - Parabellum - platform.
● **G58** - Tri-heli - Arcade.
● **G59** - Perils of Penfold - Arcade.
● **G60** - Operation Angelica - Battle.
● **G64** - Bandit - One armed bandit.
● **G65** - Impulse - shoot 'em up.
● **G66** - Carrier Attack - Battleships type.
● **G68** - Slippery Sid.
● **G69** - Psycotic - Shoot 'Em Up.
● **G70** - Space Blob - Platform type.
● **G71** - Scary - Platform type.
● **G72** - Death Camp - graphic adventure
● **G73** - A Quest for Galaxia - Shoot 'em up.
● **G74** - Sub Hunt and Sea Fisherman - Battleships and a shoot 'em up.
BUDGIE1 - Budgie UK's 6800 Assembler library of routines.
NOTE: **Only G20 and G18** work in colour and monochrome. All the other Budgie games are colour only. We always have the latest Budgie games as soon as they are released.

GRAPHICS DISKS

● **GR3** - MASTER Painter - excellent graphics program works in ALL resolutions in NEO Degas and Doodle formats. Has multiple screens 6 on 1/2 Mb, upto 24 if you have enough RAM, animate between these multiple screens, all the usual tools plus rotate to any angle, skivle- horizontal and vertical, zoom, twist, built in converter, very well laid out and designed- full GEM this is a truely brilliant program. Fill option is a bit dodgy.
● **GR6** - Degas disk - 155 fills, 10 brushes, 7 fonts, 20 printer drivers including NECP3 and P6, Epson JX80 colour (you should be able to use this for STAR LC-10),plus programs to manipulate Degas Elite.
● **GR11** - Disk full of picture utilites: Tiny Stuff v3.4 and Tiny View v4.21, Pic Switch v0.7, NEO2Mono, Convert, Mono2Medium, NEO2Degas, plus 3 screen to disk savers.
● **GR15** - JIL2D CAD drafting program from Jesus Is Lord corp. Looks good and is very complicated. This disk is double sided and requires 1Mb RAM and monochrome monitor.
● **GR17** - Picture convertors. Print Master/Degas convertor, NEO/Degas/Tiny/IFF/SPEC512 to NEO/Degas/IFF convertor. IMG/AIM convertor IMG/AIM to Postscript, Mac GIF stripper, Spectrum 512 .SPC/.SPU to GIF convertor and Spectrum 512 SPC, SPS and SPU slide show.
● **GR19** - Fractal Zoom V0.7 is the most comprehensive fractal generation program available on PD.
● **GR20** - .IMG utilities. Convert2IMG V0.9 converts any Degas format, Tiny, NEOchrome, MACPaint, Spectrum compressed and uncompressed to a monochrome .IMG format. IMG Quick View an .IMG file Viewer. The .IMG slide show V1.1 and IMGCAT V1.0 the .IMG cataloguer and printer.

LANGUAGE DISKS

● **L13** and **L14** Modula 2 development system V1.0 from Ana systems. Consists of the M2/68 compiler, linker, libraries, development shell and Micro-Emacs editor. Requires minimum 520St with 2 drives OR a 1040ST.This is a 2 disk set. Both disks are needed.
● **L15** - Sozobon C Compiler. A complete implementation of the C language as defined by Kernighan & Ritchie and prevailing practice. The package includes a compiler, optimizer, assembler, and linker, as well as several other associated utilities. L15 is a double sided disk, Sozobon C is available on 2 single sided disks @ £3.00 each called L15a and L15b. This disk is NOT for the beginner as it is poorly documented, but it is still an excellent disk.

MUSIC DISKS

● **M15** - 16 Voice Sequencer. A fully working MIDI sequencer by Henry Cosh, includes: Multi-Voice recording using seperate MIDI channels or programs, split MIDI keyboards and/or velocity ranges. Variable resolution Map of 8 Voices on Desktop continuously. Mouse click sampling of any music in the Map. Simple editing using mouse and MIDI keyboard on blocks down to hemi-demi-semi-quavers, with no MIDI event lists! Sections for naming passages plus setting Time signature, tempo, and local quantization. Variable resolution metronome on any MIDI channel, program, note, velocity. May be driven by external MIDI clock. Full Voice/Block copy, move, quantize, randomize, transpose, velocity update. Filtering of controllers, note ranges and velocity ranges on input, output or by direct manipulation.Undo/Redo on all operations that change the music and Through channel specification for each voice. All MIDI notes/channels/programs may be input from a MIDI keyboard, or typed on the computer keyboard. MIDI channels and progam numbers base may be selected to be 0 or 1.

DEMO DISKS

● **D122** - DOUBLE SIDED DISK. The Union demo! The best demo yet on the ST. Demos from TEX, TCB, TNT crew, Delta Force, The Replicants and Level 16. This demo is absolutely brilliant! It requires a colour screen and a joystick.
● **D123** - DOUBLE SIDED DISK. Snow Man demo. Great Digitised sound and picture demo of the snowman story. The song 'Walking on the air' and ditigised pictures telling the whole story. Excellent. Requires colour screen, and 1Mb RAM.
● **D125** - DOUBLE SIDED DISK. The CareBears Cuddly demos. The CareBears did some demos on the Mega Union demo. Here they have created the best demos on the ST to date! you must move a jet propelled man about the screen landing infront on the entrances to the demos. The quality of the demos is amazing and we would go as far in saying better than the Union demo! This is a mega mega demo disk that requires a colour screen.
● **D136 and D137**. 2 DOUBLE SIDED DISKS. DynaCAD product demo. A 2 disk pack of the popular fully featured CAD program. Fully working demo with save and output taken out. Requires 1Mb RAM and a monochrome screen.



Zero Virus on disk PDOM62

Most of the disks in this advert actually contain more files than is listed, The ad also only shows a small portion of our catalogue, we have in stock TBAG, AMUSE,APDC, FAUG, Panorama, Amicus, Slipped Disk, The latest Fred Fish (upto disk 260) and our own PDOM collection. so for details of the service and a free copy of the 48 page bumper catalogue send a Stamped S.A.E.
(If you are ordering you will get the latest catalogue).
Disk Prices: 1 to 5 disks are £3.00 each, 6 to 10 disks are £2.75 each and 11 or more disks are only £2.50 each!

HHH PDOM ACCESSORY SHOP HHH
Excellent quality blank disks including labels: 10-£7.00, 50-£33.00, 100-£61.00.
Blank disk labels: 100-£3.00, 1000-£10.00.
Disk boxes: 10 capacity £1.50, 20 capacity £3.00, and lockables: 50 capacity £4.50, 100 capacity £7.00. Disk and box: 10 £8.00, 20 £16.00, 50 £35.00 and 100 £65.00.
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TELEPHONE 0279 757692.

VISA
Access

TOP TEN PD

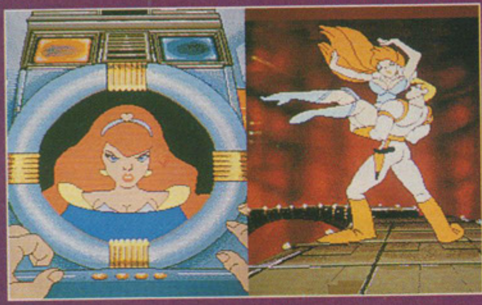
GTS Titles

1. HOME BUSINESS PACK
2. FISH 215
3. FOX VALLEY 38
4. MEGA GAMES VOL 2
5. TBAG 26
6. MEGA GAMES PACK VOL 3
7. FISH 138
8. KO THE VIRUS
9. EDUCATION WITH THE AMIGA
10. STAR TREK

TOP TEN DEMOS

17Bit Disk Numbers

1. GAMES MUSIC CREATOR (482)
2. BATDANCE REMIX (457)
3. TITANICS TITANTRAX (412)
4. SPACE ACE DEMO (514)
5. JOE SLIDESHOW (502)
6. INTROS DISC (401)
7. GYMNAST ANIM (513)
8. SHOWERING GIRLS (474)
9. RED SECTOR DEMO (503/504)
10. ENEMIES MUSIC (473)



■ The *Space Ace* demo, riding high at Number 4.

PD UPDATE

For little more than the price of a disk, you could fill your software collection with some of the finest utilities and demos. **RICHARD MONTEIRO** looks at the latest collectibles.

IMAGE-ED

Fish 242

The least expensive and one of the most powerful image editors available. It allows you to draw and edit images of up to 150 by 90 pixels, and in up to 16 colours. Drawing functions include:

- Continuous and broken freehand drawing.
- Empty or filled rectangles, ellipses and triangles.
- Lines, curves and polygons.
- Copy, flip X and flip Y.
- Stretching and condensing.
- Flood fill and complementing.
- Text, including font loading and selection of font style.
- Undo facility.
- Two active drawing screens.

In addition to that lot, *Image-Ed* allows simple selection of colours, supports left and right mouse buttons for foreground and background drawing respectively, magnified images for easier editing, and selection of bit planes. It also gives the ability to have a CLI window opened within itself.

IFF brushes and their palettes can be loaded, as can icons. If an icon has two images, you can select which image to load. Once an image has been created it can be saved in numerous data formats including AmigaBASIC sprite and BOB, C images, Assembler images, Modula 2 images and icon. All tools can be accessed from the keyboard or in the more accessible form, pull-down menus.



■ **Colours are selected simply enough, by clicking on the appropriate shade down the left of *Image-Ed's* editing screen.**

Being free, *Image-Ed* shows up many commercial equivalents. If you program in C, Assembler or Modula 2 and are sick of designing images, sprites and BOBs on graph paper, or if you program in AmigaBASIC and think *ObjEdit* is a joke: or even if you want an icon editor that is light years ahead of *IconEd*, *Image-Ed* is made for you.



■ **The colour palette can easily be remixed, and the whole image can be previewed easily.**

SOUND MONITOR

17Bit Disks 478/479

Goodness, the quality of PD programs appearing on the scene is startling! Brian Postmas' *Sound Monitor* is one of the very best you're likely to find, and this is only the first version of his program. Essentially, *Sound Monitor* is a simply a new sound editor.

The program is a combination of the C64 *Sound Monitor* and the Amiga *Sound Tracker*. You can create song patterns using samples and listen to the results.

Individual instruments or samples, of which there are 15, can have their length, repeat location, repeat length and volume altered.

Each voice (or sound channel) has a pattern number, sound transpose value and transpose value assigned to it. Up to 341 patterns are permitted, and these provide information on the order in which notes are to be played. Sound Transpose is a facility used to play all notes in a pattern with an instrument one value higher than the default instrument. Transpose simply shifts notes higher or lower in half-note steps.

From the pattern editor it is possible to enter the notes you wish played. Up to 16 notes can be played in a pattern. Information set in a pattern includes the note/octave setting, instrument, and also the volume level.

Finally, the player lets you listen to your composition. Full instructions are provided for including your songs into your own programs, but this gets a little heavy: not for the faint of heart.

FISH 234

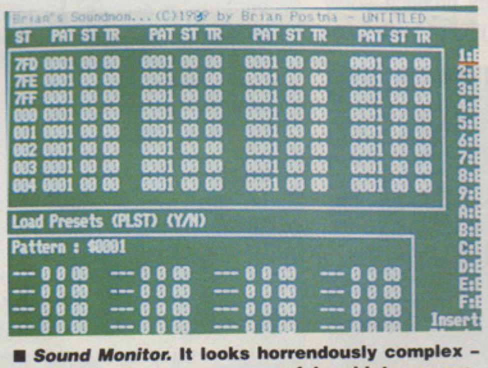
GTS

MuchMore – another in the vein of *More*, *Less*, *PG* and so on. It scrolls the contents of a text file on screen and provides you with various key controls.

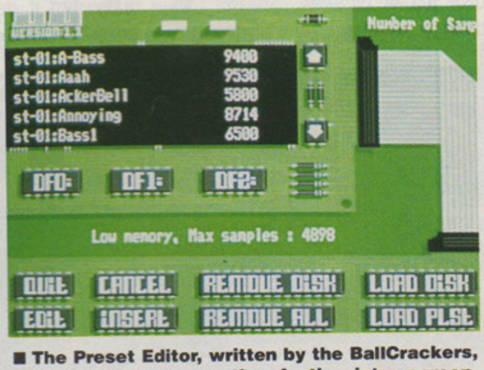
NetWork – another amusing little Workbench screen hack.

PrintIt – prints IFF pictures to an Epson 9-pin or compatible.

WBPic – replaces the Workbench screen with an IFF high resolution non-interlaced, two or four-colour



■ ***Sound Monitor.* It looks horrendously complex – and is – but is also very powerful and lets you create excellent compositions from sound samples.**



■ **The Preset Editor, written by the BallCrackers, not only features a rather festive intro screen, but also lets you alter the sample file statistics.**

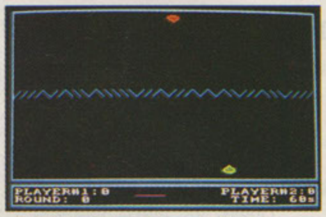
picture. Can't imagine why that is.
XHair – replaces the mouse pointer with a screen wide crosshair, which is rather jolly.

FISH 235
GTS

CalcKey – a basic four-function memory-resident pop-up calculator which can send the answer to a calculation back to the program that it was called from.
CT – displays images from a CT scanner and comes with many samples. Very bizarre indeed!
MirrorWars – a two-player game involving laser rays and mirrors.

FISH 236
GTS

AmigaBench – optimised Amiga assembly versions of the Dhrystone benchmark.
DiskHandler – file system that reads and writes 1.2 disks.
Heart3D – a program to find the left ventricle outlines of the output of am Imatron CT scanner, and display wireframe animations of the beating heart.



■ ***MirrorWars:* bizarre little game from Fish Disk 235.**

Ls – version 3.1 of the popular Unix-style directory lister.
Proc – example program of how to create a DOS process without needing to call LoadSeg first.
XprZmodem – ZModem file transfer utility to any XPR-compatible comms program.

SHOWIZ 2
TBAG 31

This utility combines the features of a display program with those of a slideshow program. You can view a single image or a complete disk full of pictures. *ShoWiz* can display an image in 26 different ways, and it works in all resolutions including HAM and overscan.

ShoWiz can even display text files using your very own choice of background colour, font and shadow. Animations can be played and sound tracks can be synched in to accompany images.

No script files are needed to display a picture disk; the program creates its own script. Of course, you can specify your own type of wipe, length of time the image is displayed and the filename.

MASTER CRUNCHER
FAUG 80

Do you find you run out of storage space on your disks far too quickly? By using this useful program you could compress your files by very considerable amounts. Typical savings are are around 50%, but more is possible if the files consist mostly of data.

WRAP
TBAG 25

This program simply forces the mouse pointer to wrap around the screen. If, for instance, you hit the left edge of the screen, the pointer will appear at the far right of the screen. Similarly, if you move the pointer to the very top of the screen, the pointer will appear at the bottom of the screen.

NOCLICK2
Fish 231

Put an end to the annoying chomping sound of empty Amiga's disk drives with this nifty utility. Only works with B2000s and A500s running Kickstart/Workbench 1.3.

WORM
Fish 218

An Amiga implementation of the classic *Worms* program based on an article in the December 1987 issue of Scientific American. You can specify the size, length and number of worms. Pretty useless really, but it does produce some extremely pretty pictures. Ho hum.



■ **The *Showiz* demo displays a whole heap of different wipe patterns.**

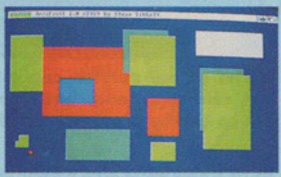


■ **The WorkJerk workbench hack may have some rather predictable results, but it sure has interesting icons!**

TBAG DISK OF THE MONTH 28
GTS

Every now and again the Tampa bay Amiga Group puts together a disk with some of the best programs in its vast collection. Disk 28 is a sample of the latest.

ANSIPAINT
How about this: a text-only paint program! Why bother using pixels when block graphics will do? Hmm... To be fair though, there is a good reason for wanting to do this. Ummm... Ah, yes, for creating graphical headers in readme files, BBS menus and BBS title screens. Of course.



■ **Admittedly it's not going to rival *DPaint III*, but for adding fancy screens to your text files it's great.**

COLOURLAB
A program that allows you to study the Amiga's colour palette and modify the colour scheme of IFF pictures.

SOUND
With this one, any file can be sent to the Amiga's audio device, which in most cases means the monitor speaker. Files containing any form of data can be played, although whether you get anything tuneful is another matter. Obviously it's best for playing IFF samples, but if you're so inclined text files will do.

TETRIS
Not the official version, you realise, but a very good freebie. Get the disk just for this program: it's excellent. What a classic! And converted so well. The idea in *Tetris*, as if you don't know, is to slot blocks of various shapes together as they pile up in a heap at the bottom of the screen. So simple, yet so addictive.

■ **Although it lacks the pretty background image and zany tune, the PD version of *Tetris* is just as playable.**

WORKJERK
It's another of those totally useless Workbench hacks to add to your collection. The program's name gives its game away.

EXPLODING WINDOWS
Add excitement to you Workbench screen with this little number. Running this utility causes Workbench windows and requestors to open in a more interesting manner than the standard Workbench screen allows. A rectangle grows from nothing to the size of the window or requestor during the opening operation. The opposite occurs during a close.

MACH II
Provides you with 30 hot keys which can be activated via function keys, the Amiga key, or by typing the first few letters of the macro. It also comes with facilities for accelerating the mouse, blanking the screen after a predetermined time and activating a window simply by moving the mouse pointer into it.

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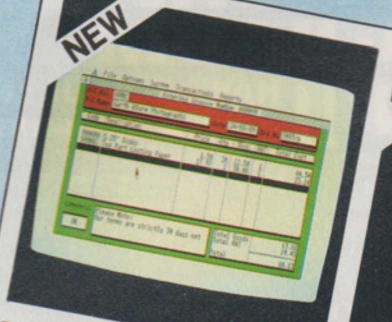
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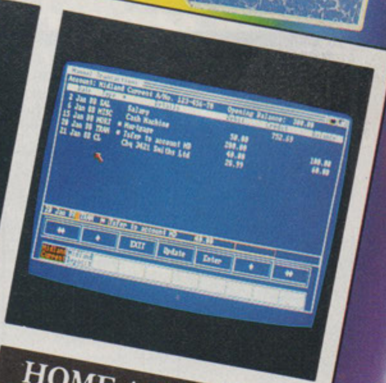


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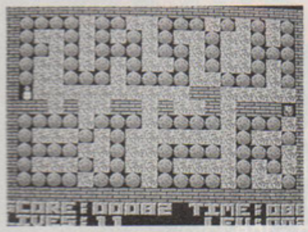
17Bit Disk 492

After a few swift demos you're into the game proper. And what an entertaining game it is too. You must guide Werner to the beer, but of course things aren't that simple, and more often than not you're attacked by lots of larger louts and falling boulders.

The game is an unashamed *Boulderdash* clone: but who cares, it's playable and fun. The idea is simple: using a joystick you must move Werner round obstacles in search of his favourite food.

For free this is damn good. Not that long ago something like this would have been sold as a full-price 8-bit or even 16-bit game. Nice to see some demo-writing talent put into a full game project.





■ **Skoll, Skoll, Skoll, Skoll, Skoll, Skoll. Hey, Werner, why aren't you joining in the song. Don't tell me you've forgotten the words...**

PUGGS IN SPACE

17Bit Disk 515

What a splendid graphic extravaganza the Dionysus programmers have put together. It's shows the animated adventures of Pugg, a friendly alien landing in America. Poor unsuspecting Pugg, not used to the strange goings-on of Earth, has all sorts of mishaps. He falls out of his space craft, loses his arm, gets squashed by a helicopter and goes for a spin in revolving doors. It's funny, well animated and very watchable. In fact, the animation is so good, it could easily pass as a TV cartoon.

Do nothing but sit and watch. You will not be disappointed by this.

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MUSICAL MASTERPIECES

If you're into hip hop, house or hill-billy, then the following disks are for you:

DTACK MUSIC COMPILATION

17Bit Disk 526

A while back 17Bit software ran a competition to find the best Amiga musician. This disk is Dtack's entry. And very impressive it is to. It contains eight tracks of sample/synthesized music created by the Dutch maestros. Arguably one of the best compositions on the disk is the Acieed! cover.

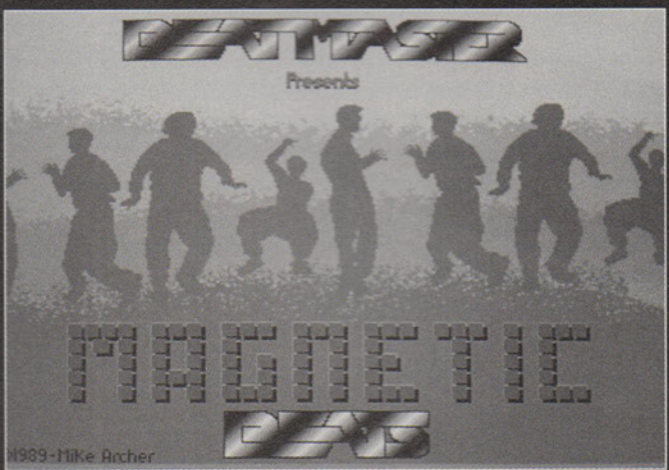
MAGNETIC BEATS

17Bit Disk 524

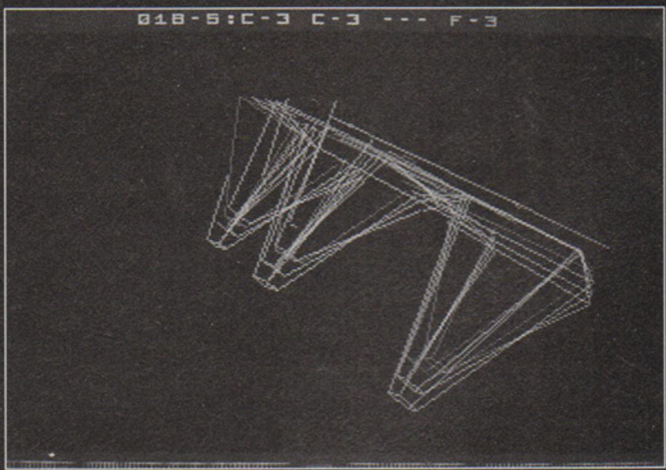
This disk will jack you into oblivion – several tracks from one of the greatest unsung heros of digital ditties, Mike Archer (aka the Beatmaster). No whizzy graphics, no astounding animations, no frills, just some of the greatest computer-generated house tracks you are ever going to hear. All sampled, all sensational. Even has some tips for any would-be sampling supremos out there.

17BIT DISK 523

A complete mystery this one. No credits, no nothing. Just a blank screen and a sampled version of a '50s classic. Unfortunately nobody in the office knows the author or the title of the track. A random selection of five PD disks for the first person to write in with an answer to the mystery. Write in to DISK 523, PD Update, Amiga Format, 4 Queen St, Bath, BA1 1EJ. Answer and winner will (hopefully) be announced next issue.



■ **Nothing fancy in the way of animated bits flying around the screen on this demo, but then it's the music you're supposed to listen to.**



■ **When one of the Amiga's channels is active a cone will appear – well, it's more interesting than watching a blank screen.**

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Bad Company is programming legend Steve Bak's latest and greatest masterwork with scrolling of vanishing point perspective surfaces, the latest superfast 3D sprite techniques and featuring:

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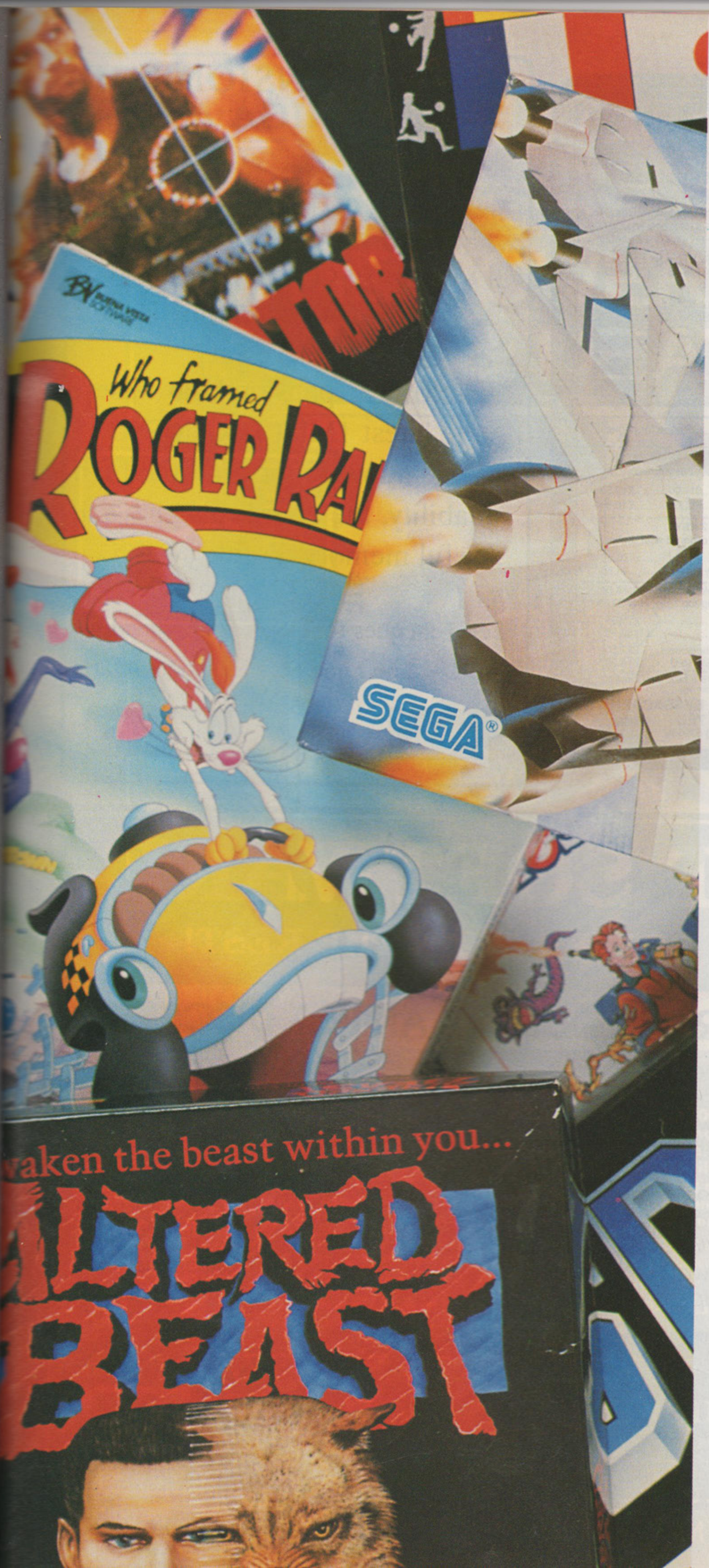
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Here are the six games the winner will get throughout the course of 1990 as they are completed...

Ninja Spirit, ATtomic Robokid, Dragon's Breed, Hot Rod, Sonic Boom, Bomber2

Activision are even throwing in a glow-in-the-dark *Ghostbusters II* T-shirt and a much sought-after enamel *GB II* badge.

HOW TO ENTER

Write the answers to the following three questions on the back of a postcard or stuck-down envelope and send it to: Activision Comp, *Amiga Format*, 4 Queen Street, Bath BA1 1EJ. The entries should reach us by January 20th and don't forget to include your name, address and phone number on the postcard.

QUESTIONS

1. Who was Roger Rabbit's human co-star?
a) Arnold Schwarzenegger
b) Charles Bronson
c) Bob Hoskins

2. What terrifying thing attacks the Ghostbusters in the climax of the first film?
a) A giant Marshmallow man
b) The cast of Neighbours
c) A ghostly aeroplane

3. Who stars in both the Ghostbusters and Alien films?
a) Bill Murray
b) Sigourney Weaver
c) Dan Akroyd

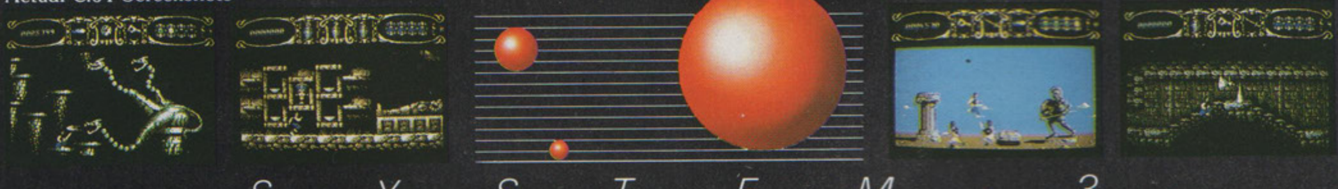
RULES

Employees of Future Publishing and Activision are not allowed to enter. The judges' decision is final. No correspondence will be entered into.


ATARI... THE POWER BEHIND
ARC
REACH OUT FOR THE POWER
THE POWER OF LIFE & DEATH
ARC
Prince
PRINCE
An uneasy calm besets this picturesque 10th century island principality. Decades of warring have created a stalemate between its two leading princes. Each controls approximately equal territories, towns, villages, subjects and armies but each is possessed by a burning ambition for autonomous rule. Take on this princely challenge, lead your armies forward in bloody conflict and towards ultimate victory.
• Zoom In Zoom Out strategy magnification. • Eight individual island terrains. • Animated battle graphics and sounds. • Two player link up: to Atari St · to Amiga · to IBM PC.
ATARI ST · AMIGA · IBM PC — £24.95.
Screen shots from various systems.
REACH OUT FOR THE POWER OF ARC
ATARI ST · CBM AMIGA · IBM P.C.
ARC, P.O. Box 555, Slough SL2 5BZ



Actual C.64 Screenshots



ON YOUR DISK

INFESTATION
Sensational high-speed filled 3D graphics, scintillating sampled sound and phenomenal playability from the masters of 16-Bit entertainment, Psygnosis. Alien scourge have threatened the galaxy, and it's up to you, Kal Solar, to mash them. Can you survive the playable demo?

GAME BUSTERS SPECIAL
Boy, have we got some great game cheats. If you can't stand losing, check out the underhand game guides on the disk. There's a Bards Tale I and II character editor, IFF picture maps of the first seven levels of Dungeon Master, a doctored Faery Tale saved game, a modified Questron II data file and a hacked saved data file for Populous. All will give you the upper hand.

BMP
Play sampled sounds in the background while running other programs or using the Workbench. The Background Music Player is fantastic for playing digitised ditties from the startup-sequence or for using in Amiga demos.

CLOUD 9
Discover the beauty of fractal graphic surfaces with this superb terrain simulator. Generate bird's-eye views of clouds, water, the Earth's surface and thermal photographs. Switch on the random and repeat buttons and let it churn out pretty pictures.

WORKBENCH HACKS
You must be joking! You're not expecting to discover what delights await you in the Workbench Hacks drawer, are you? Good. But we're not that cruel, so here's a hint: big brother, bugs and bounce. Bet that's confused you.

PREFERABLE PREFERENCES
Replace the standard Amiga Preferences (you'll find a copy on your Workbench master disk) with this more efficient, much shorter and more featured-filled version. Change Workbench colours, toggle interlace mode, set mouse speed, determine screen position, select screen size, decide printer settings, customise the pointer icon and much, much more.

£800 UP FOR GRABS!
Don't just sit there! Get your programming tools out and earn yourself some dosh. We'll accept anything: Workbench hacks, demos, utilities, games, game cheats! Turn to Page 102 to see if you've got what it takes to write software for the Amiga Format Coverdisk.

BACK UP YOUR COVERDISK IMMEDIATELY
Don't know how? See Page 102 fast!

DISK EXTRA

There's a fantastic feast of freebies for you to find on the latest Amiga Format Coverdisk. Games, demos, utilities, graphic goodies, sound programs, Workbench hacks: something for everyone. **RICHARD MONTEIRO** guides you through the month's offering...

INFESTATION
PROGRAM: PSYGNOSIS

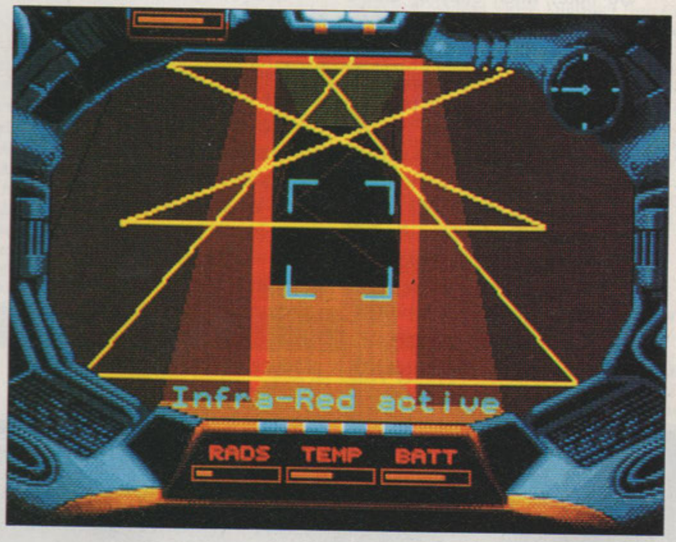
Time to kick some alien ass! You are Kal Solar, agent for the Interplanetary Federation. Your mission is to eliminate the threat from hostile alien lifeforms. You must travel to Xelos in your cruiser and, once there, land and enter space station Alpha II.

The main objective in the full game is to seek out the incubating alien eggs and destroy them. This is done by sealing them inside their incubating chamber and poisoning them with cyanide gas. Once all the eggs have been destroyed you must progress to the power source at the heart of the complex. From there you must work out how to achieve critical mass and get the hell off the planet before it atomises. We are talking Supernovae, here. This is one fireworks party you do want to miss.

In this fantastic playable demo you get to explore a small area of the alien complex. Your view of the complex is shown in stunning high-speed solid 3D graphics. You can move around as you wish, but it's a good idea to map your movements.

Movement is achieved using a joystick in Port 2. Your support system works in one of two possible modes: Reconnaissance, in which you are free to look around the surrounding area, or Tactical, in which your pulse rifle is functional. You enter tactical mode by pressing and holding the fire button.

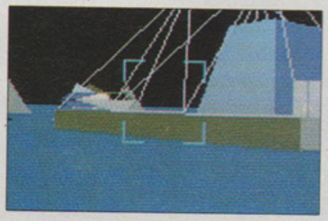
There are several objects to watch out for during your travels:
Lifts: in the full game these let you travel between levels. These can be identified by a diamond shape on double sliding door. Pressing F1 will open or close the nearest lift door.
Shuttles: these provide fast transport in straight lines between two locations on a level. The shuttle

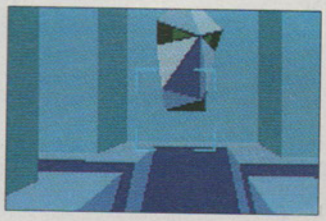


door can be made to open and close by pressing F1.
Ventilation Tunnels: access to these is hindered by grates. Pressing F1 will remove the nearest one. You will have to crouch in order to move through the tunnels. Press F10 to crouch, and the same again to stand.
Network Terminals: scattered throughout the complex are special terminals which can be accessed to show the layout of the complex, location of eggs and hostile systems. Access a terminal by standing in front of it and pressing F2.
Blast Doors: special air-tight doors which can be permanently sealed. Press F1 to seal the nearest ▸









blast door. Once closed, they can never be opened.

You wear a sophisticated pressurised body suit complete with helmet, oxygen pack, battery pack, pulse rifle and food. Your helmet can be removed by pressing F3, but at the expense of losing vital information displayed on its interior. The helmet displays your oxygen levels, body temperature, radiation level and your bearing relative to the moon's magnetic north. Six other items of information can be called up by pressing the following keys:

1. Additional navigational data.
2. Displays current mission status and number of eggs destroyed.
3. Lists the items in your possession.
4. Shows life support status.
5. Brings up your note pad which can have items written on it for later use.
6. displays radiation levels and atmospheric status.

Go for it, Kal. Happy hunting.

Getting started

To run the playable *Infestation* demo simply insert the Coverdisk at the 'Insert Workbench' prompt and, when asked whether or not you want to run the demo, type Y and hit Return. Make sure you've got a joystick plugged into Control Port 2.

HOTLINE 0225 765086

Between 4pm and 6pm on weekdays only.

Flummoxed by files? Dumfounded by disks? If you've got a problem with the disk – and you're sure the disk is in full working order – phone 0225 765086 with your query. State the model of your machine and anything you've got attached to (or plugged inside) the computer. Don't bother telling us the version of Workbench or Kickstart because Jason thinks it is silly and wastes valuable column inches. For problems with disks before Issue Five, phone *Amiga Format* direct.

BMP

PROGRAM: PUBLIC DOMAIN
FILES: BMP, BMP.DOC, BMP DEMO

Pin yer ears back lads and lasses, we've got somethin' well sound for you. The *Background Music Player* (*BMP*) can replay digitised sound while the rest of the system – and you – gets on with other tasks. Ah, the joys of multi-tasking. As Jason would say, "Only the Amiga makes it possible."

BMP is perfect for running alongside a slideshow program, animations or other demos. As *BMP* can be used from the CLI, you can call it from your startup-sequence and have a digitised ditty screech out at you every time you boot the disk. And all that without slowing down the system.

Sound samples can have icons attached to them and, if certain options are added into the Tool Types in the Info box, will be played back by *BMP* in specific ways when double clicked on.

For instance, you can determine how many times the sample plays – anything from once to non-stop. A graph displaying the sound sample being played by *BMP* can be called up. And the background and foreground colours used by the *BMP* gadget can be selected.

The procedure for making sound samples replayable in the background by *BMP* is as follows:

- Attach an icon to a sound sample.
- Highlight the sound sample's icon.
- Select the Info option in the Workbench's menu bar.
- Type in *BMP* at the Default Tool requestor.
- At the Tool Types prompt enter your selections (read the documentation file and follow BMP DEMO).

Sound samples can be played from the CLI, but in this case you can supply as many files as you wish for playing and each file can have its own string of options supplied.

Do note, when copying *BMP* you will need ARP.LIBRARY in the LIBS directory of your boot disk. The Coverdisk comes supplied with ARP.

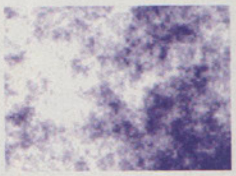
Getting started

You can use *BMP* in several ways. The easiest method is simply to double click on the *BMP* icon inside the *BMP* drawer. A file selector will appear asking you for the name of a sound sample data file. Supply a filename and *BMP* will get on with playing the sample.

Samples can also be played by double-clicking on an appropriate sound data file. There's an example on the disk. Inside the *BMP* drawer you'll find a file called BMP DEMO; double-click on it. A small gadget will appear on the Workbench screen while the sample plays. You can get on with other things or click on the gadget's close icon to stop the sound.

CLOUD 9

PROGRAM: MIKE HALL
FILES: CLOUD 9, CLOUD 9.DOC



Get into the cloud generation game with Mike Hall's great fractal graphics generator. Mike's program produces fractal images which are seen from a bird's-eye view. Depending on your choice, you can get pictures which look like clouds, Rand McNally-style maps, the ocean or thermal images.

Everything takes place in a low resolution, 320 by 200, screen. Taking up a quarter of the screen is the control panel; the rest of the screen is devoted to the fractal graphics. From the top of the control panel downwards, these are the features you have to play with:

Auto – when set, this option produces fractal landscapes non-stop.
Pause – halts automatic fractal generation and lets you change the palette and other options.
Rand – you'll get the same image produce time after time if this isn't switched on.
Scroll – when this is off, the new image fills in from the top of the screen downwards. When on, the screen is scrolled upwards with the old images disappearing off the top of the screen.
Gen – generates a single new image
Re-Do – re-displays the current image. Useful to see the effects different scalings have on the same image.
d=??% – this value determines the smoothness of the resulting fractals.
Log – selects a logarithmic scaling.
Lin – sets a linear scaling.
Exp – picks exponential scaling.
Histo – equal area scaling between data and colours.
Reverse – flips the colour palette end for end.
Atmos – the colour palette for cloud-coloured images.
Earth – dusty, rocky palette which simulates the Earth's surface.
Water – no points for guessing this one.
Therm – nor this one.

And that's all there is to it. The program does all the hard work. You simply click a button here or add a value there. It's very idiot friendly.

Getting started

Easy this one. Simply double click on the *CLOUD 9* drawer and then double-click on the *CLOUD 9* program icon. Let the program run its course or alter parameters by clicking on the options towards the left of the screen. You can exit *Cloud 9* by clicking on the close icon in the top left corner of the screen.

PREFERABLE PREFERENCES

PROGRAM: JONATHAN POTTER
FILES: PPREFS, PPREFS.DOC

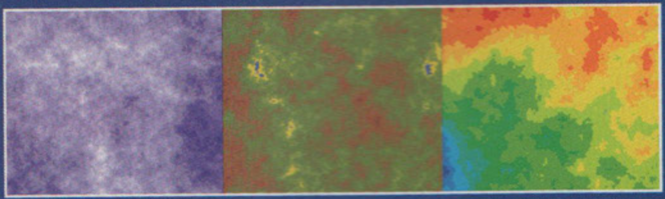
Why not, matey? The standard Amiga Preferences, matey, is a tad oversized and underpowered – so why not, matey, replace it with something a little more, err... matey... damn, preferable. And call it matey, Preferable Preferences. What a brilliant idea; somebody matey – ahem, write – it immediately and send it in to Amiga Format, Coverdisk... Geroff!



■ **Click on the *BMP* program icon to start the *Background Music Player*. Supply a filename to the requestor that subsequently appears. *BMP* will play the data, assuming it's sampled sound.**



■ **A graph of the sample in memory, together with a pointer telling you how much of the sample has been played, can be made to appear when a *BMP* sound sample file is clicked on.**



■ **Mike Hall's *Cloud 9* doing what it does best: generating fractal clouds.**

Click a button and the clouds suddenly turn into rough terrain.

Or even a thermal image. By specifying how the fractals are drawn, it is possible to create some delightful images.

➧ There's no need for your waffle here, Jason. Get back to your Workbench tips.

Right, Jonathan's *Preferable Preferences* (*PP*) is shorter, more efficient and easier to use than the similar effort supplied with your system. So, go ahead, waste your *Amiga Preferences* (*AP*). You'll save 38K in doing so as *AP* is 56K and *PP* a mere 18K.

There really are too many features to list in *PP*, so here are a few brief details on some of the best. For a full rundown of everything included in *PP* read the documentation file, PPREFS.DOC, by double-clicking on it.

Red, green and blue values of each of the Workbench colours can be altered; keyboard delay and repeat settings can be adjusted; interlace can be toggled on and off; screen position and screen size can be changed, comprehensive serial and parallel settings can be made; the mouse pointer can be edited and the new shape used. There's plenty more besides.

Getting started

Double click on the *PPREFS* drawer. Once inside, double click on the *PPREFS* program. After a little disk whirring you'll be presented with a screen which looks very similar to the *Amiga Preferences* (that's so you don't get confused). Do what you would do to the standard *Preferences* program; generally fiddle around. And, if you want you alterations to remain, save them. Clicking on Cancel will get you back to the Workbench.

WORKBENCH HACKS

Put life into your Workbench. Use these three excellent hacks to create mayhem, misunderstanding and another word beginning with 'm' that's unprintable. Try them yourself and then dish out the punishment to others.

WATCHER

PROGRAM: PUBLIC DOMAIN
FILES: WOTCHA, WATCHER

Ho, ho; there's two of them which is twice as nice, but twice the trouble. Open the *WB HACKS* drawer and double click on the *WATCHER* folder. Now, double click on *WOTCHA*. Hey, big brother's watching you! Double click on *WATCHER* and big brother's big sister will watch you too.

AMIBUG

PROGRAM: PUBLIC DOMAIN
FILES: AMIBUG

Enter into the *AMIBUG* drawer if you dare and double click on the program icon which, would you believe, goes by the name of *AMIBUG*. So, what happens? Stick around, it's early days yet. Workbench is never written in a day. Know what I mean, Jason?

WAVEBENCH

PROGRAM: PUBLIC DOMAIN
FILES: WAVEBENCH, ANOTHER WAVEBENCH

But that's already appeared on Amiga Format Coverdisk 2! Naarghh, you're wrong 'cause while these new ones are similar – that is, they do rude things to your Workbench screen – they don't do the same rude things as the one that surfaced in issue 2. Double thump the left mouse button to get inside the WAVEBENCH drawer. Then take your pick: WAVEBENCH or ANOTHER WAVEBENCH. If only all things in life were that simple (all right, that's enough ad slogans – Ed).

GAME BUSTERS SPECIAL

We've had a wealth of wonderful game cheats and hacks suitable for the Coverdisk over the months, so we've decided to squeeze the best of a brilliant bunch onto this issue's disk. Just to whet your appetite, there are *Dungeon Master* Maps, character editors for *Bards Tale I* and *II*, and doctored saved games for *Populous, Faery Tale* and *Questron II*.

BARDS TALE EDITOR

PROGRAM: ALAN BELL
FILES: BARDS TALE EDITOR, BARDS TALE EDITOR.DOC

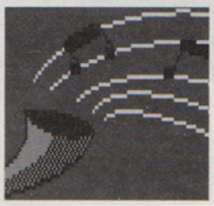
Alan's very handy program allows you to edit an existing Bards Tale saved character set or create one from scratch.

Six items in the editor's menu bar provide you with all the editing tools you'll ever need. A character's race, attributes, statistics and magic class are all user definable.

You must have your Bards Tale Character Disk handy if you wish to load or save game data. Don't attempt to read a file from, or a write a file to, any other disk. You simply can't do it. So don't try.

Getting started

Read the BARDS TALE EDITOR.DOC file before running the main program. It will tell you in further detail what all the menus do. You can find the help file and the main program inside the *BARDS TALE EDITORS* drawer. Double click on the program icon to get going. The *Bards Tale* editor is a compiled BASIC program;



it requires HISOFTBASIC.LIBRARY in the LIBS folder of you boot disk to work. So, when copying the files to another disk, don't forget the library. If it isn't copied across, you won't get the program to run. The Coverdisk comes supplied with the appropriate library.

BARDS TALE II EDITOR

PROGRAM: ALAN BELL
FILES: BARDS TALE II EDITOR

You don't need the same spiel twice. Simply substitute the file *BARDS TALE II EDITOR* for *BARDS TALE EDITOR* and *BARDS TALE II EDITOR.DOC* for *BARDS TALE EDITOR.DOC*. Note, the editor can be found in the *BARDS TALE EDITORS* drawer.



DUNGEON MASTER MAPS

PROGRAM: PUBLIC DOMAIN
FILES: MAP1.PIC, MAP2.PIC, MAP3.PIC, MAP4.PIC, MAP5.PIC, MAP6.PIC, MAP7.PIC

Provided in IFF picture format are maps of the first seven levels of Mirrorsoft's monster game. Fully labelled with objects, enemies and treasures, the maps will be of enormous use to anyone flounder-

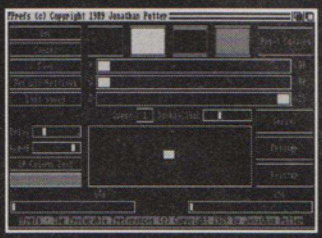
IS YOUR DISK FAULTY?

We have done our best to check that the programs on the *Amiga Format* Coverdisk are simple to use, error-free and have no known viruses. However, we cannot normally answer telephone queries on using the software, and we do not accept liability for any consequences of using the programs on the disk.

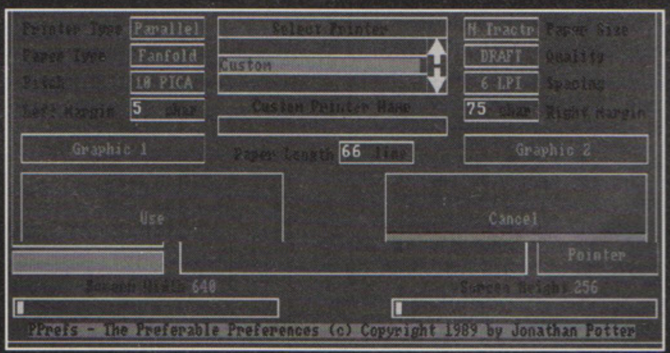
If your *Amiga Format* disk is faulty – and out of the tens of thousands duplicated, some are unfortunately bound to be – you should send it back for a free replacement within a month of the cover date to:

***Amiga Format* December Disk, Discopy Labs, Unit A, West March, London Road, Daventry, Northants, NN11 4SA.**

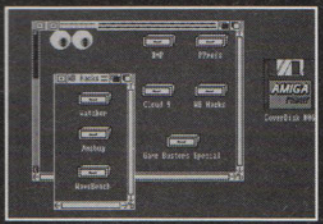
If your Amiga refuses to accept the disk, try using the *DISKDOCTOR* utility on your Commodore Workbench disk to rescue it before sending it off for a replacement. Full details of *DiskDoctor* can be found in the user's manual that came with your machine.



■ ***Preferable Preferences'* main menu – it looks very similar to the Amiga preferences so you don't become confused with the options on offer.**



■ **Like the *Amiga Preferences*, it's possible to redefine the mouse pointer in *Preferable Preferences*.**



ing on any one of the earlier levels.

Getting started

Double click on the *GAME BUSTERS SPECIAL* drawer and then double click on the *DUNGEON MASTER MAPS* drawer. Inside you will find seven IFF picture files of the name format *MAP?.PIC*. The question mark is a value between one and seven which represents the game level. Simply double-click on the required picture to get it to appear on screen. The images are displayed by a program called *VIEWILBM* which lies in the C drawer of the Coverdisk. Don't forget to copy this file along with the image files.

POPULOUS DATA FILE

PROGRAM: W KUSIERZ
FILES: EASY.GAM

Move all the files from inside the *POPULOUS DATA FILE* to the root directory of your *Populous* saved game disk. Load the files into Populous and you should find you've got the upper hand.

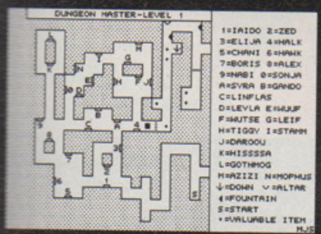
QUESTRON II DATA FILE

PROGRAM: W KUSIERZ
FILES: G0, G1, G2, G3, WD, NAMES

Copy all the files inside the *QUESTRON II DATA FILE* folder to the root directory of your *Questron II* saved game disk. Load the files into *Questron II* for an easy time. ■

WARNING!

The game cheats on this month's Coverdisk are straightforward to use, but please read the instructions in the magazine, on the disk and on the public inconvenience walls. Just do it! If you screw up your game disks – or indeed, any other disk – because you failed to read any documentation, it's your fault. You're on your own. And you're getting diddly-squat from *Amiga Format*. You've been warned.



■ **(Above) First seven levels of Mirrorsoft's fantastic adventuring game *Dungeon Master*, mapped.**

■ **(Left) Looking at you, big eyes.**

USING THE FORMAT DISK

Before using your *Amiga Format* disk, you should make a back-up of the master disk as soon as possible. This is very important!

Backing Up Your Disk

For a number of reasons, it is rather important to make a backup copy of the Coverdisk as soon as possible. Copying the disk may sound like a complicated task suitable for techno-buffs only, but it is surprisingly simple provided you read the following instructions carefully:

1. First, turn on your machine and load Workbench. Once the Workbench screen appears and the disk-drive light goes out, remove your Workbench disk and insert our Coverdisk.

2. Next, click once on the Coverdisk icon and then press the right mouse-button and the Workbench menus will appear. Now, while keeping the right mouse-button depressed (you can cheer it up afterwards!), move the mouse pointer over to the 'Workbench' heading and a menu will drop down. Move the mouse pointer over the 'duplicate' menu option and then press the left mouse-button.

3. After a few seconds' disk access, the Workbench DiskCopy tool will be loaded and run. Now just follow the on-screen prompts and your *Amiga Format* Coverdisk will be copied to a backup disk. When the machine asks for the destination, insert your blank disk into the drive. Further instructions can be found in the user's guide that comes with your Amiga.

Using the Programs

All the programs on the *Amiga Format* disk are specially set up to make them as easy to use as possible. If you can use the Amiga's Workbench then you can use our Coverdisk! If you do have problems with a program, full instructions on loading and using the programs are included in the Disk Pages and these should get you up and running. If you still have problems, you should read the documentation file (.DOC) that is included with every program. To run any of the programs on this month's Coverdisk, all you have to do is follow a very simple procedure. Unless specified differently within the Disk Pages, just double-click on the program's icon on the Workbench and the program will load and run. Full details on how to use the programs once they have run are included with the Disk Pages and also as a documentation (text) file accompanying the program.

To display a documentation file, just double-click on the appropriate .DOC file to be viewed and a window will open containing the file's contents. Pressing the space bar will advance a page at a time.

COPYING THE DISK

Unless specifically stated, the programs on the Coverdisk are not in the public domain and the copyright remains with the author. Selling or distributing these programs without the author's permission is against the laws of copyright.

If you've got any programs for the Amiga which you think other readers would find useful, interesting or amusing, we'd like to know about them. 1. Make sure your program is foolproof to use. 2. Create a file called README.DOC on the disk which explains exactly how to use your program. 3. Fill in this form, sign it, and send it without delay to: CoverDisk Software, *Amiga Format*, 4 Queen Street, BATH BA1 1EJ You could win a share of £800 prize money for the best programs each month.

EARN YOURSELF £800

Name..
....
Address..
....
....
Telephone *(Daytime)*..
(Evenings)..
My program name is..
....

Approximate total size of files in kilobytes ....K **(we cannot use programs longer than 200K; shorter submissions, under 100K, stand the best chance of publication). It is a:**

☐ **Game** ☐ **Technical tool**
☐ **Business utility** ☐ **Art program**
☐ **Music program** ☐ **Educational**
☐ **Novelty** ☐ **Other**

Brief description ....
....
....
....

Checklist **(please tick):**

☐ **Stamped, addressed envelope for return**
☐ **README.DOC explanation file on disk**
☐ **Printout of README.DOC file (if possible)**
☐ **Name, address, machine type written on label**
☐ **Disk certified virus free**

IMPORTANT **Please sign this declaration:**
This program is submitted for publication by *Amiga Format*. It is wholly my own work and I agree to indemnify Future Publishing against any possible legal action should copyright problems arise.

Signed ....

Date ....



WIN A FERRARI!

GET DOWN TO SOME HARD DRIVIN' WITH A RADIO CONTROLLED FERRARI FROM DOMARK

Setting the pace in the arcades lately has been *Hard Drivin'*, the racing game that puts you behind the wheel of a Ferrari F-40. Wouldn't it be nice to have one of your own? Well now you can, because Domark are offering 5 radio controlled model F-40s worth £300.

Hard Drivin' made quite an impact on the arcades, with its simulation approach of having a clutch and gearbox, and lived up to the claim that it was 'the closest thing to driving without actually being there'. Amongst its memorable points is the 360 degree loop: driving on the ceiling, how's that for excitement?

You will have just as much fun with the radio-controlled versions of the car. They have full-function forward, reverse, left and right turns and stop, two-speed forward running, a speed selector switch, working headlights and a recharging jack for Ni-Cad batteries. To have the chance to get behind the wheel of one of them here's what to do...

HOW TO ENTER

Write the answers to the following three questions on the back of a postcard or stuck-down envelope and send it to: *Hard Drivin'* Comp, *Amiga Format*, 4 Queen Street, Bath BA1 1EJ. The entries should reach us by January 20th and don't forget to include your name, address and phone number on the postcard.

QUESTIONS

1. Who drove for Ferrari in the last Formula One motor racing season?

a) Mansell and Berger
b) Senna and Prost
c) Kylie and Jason

2. What two names were used to make up the title Domark?

a) DOMestos and ARKwright
b) ADOrable MARKeting
c) DOMinic Wheatley and MARK Strachan

3. What is the Ferrari symbol?

a) A prancing horse
b) A nodding dog
c) A stilt-walking kangaroo

RULES

Employees of Future Publishing and Domark are not allowed to enter. The judges' decision is final. No correspondence will be entered into.

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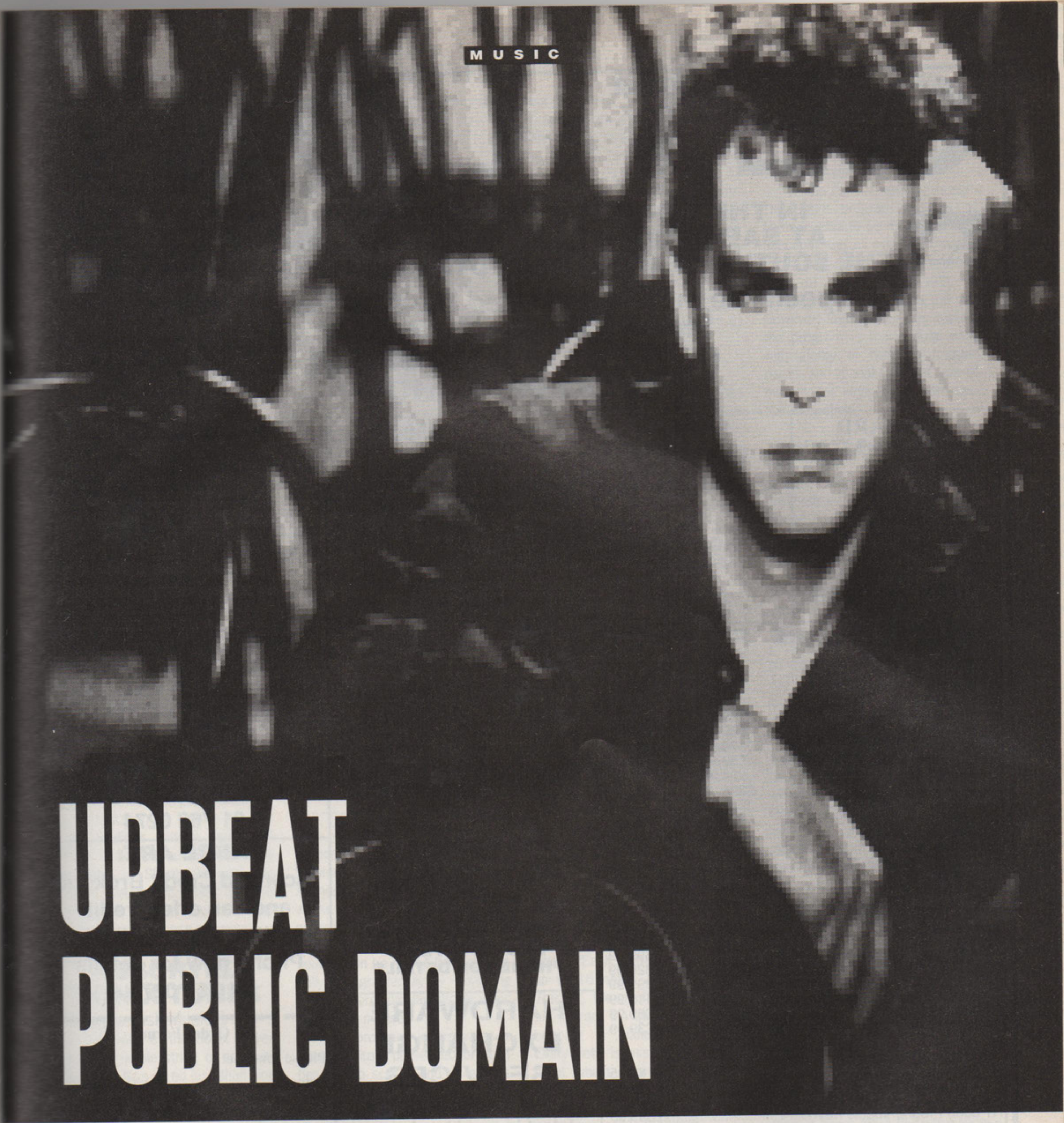
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UPBEAT PUBLIC DOMAIN

Broke after spending your cash on big surprise prezzies? JON BATES piles through PD music software and promises there won't be anything from the Pet Shop Boys.

It's probably something to do with the fact that I have short arms and low-slung pockets that the concept of Public Domain is rather appealing. Mi Learn'd Friend Jason Holborn has, for a long time, been running his way through all the PD utilities he can lay his hands on and so in response to these stimuli what can I do but plough my way into the state of PD music software as it stands. If I haven't included your fave piece of software then it's because either it didn't arrive or it has emerged since this article was written.

No Kylie

In case you aren't aware, the music utilities on PD are split into two broad sections. There are some that play back sampled music from commercial records etc. etc. complete with graphics a-go-go, and those that allow you to be creative and write tunes and create sounds. Under this latter heading I have also included those programs that allow you to play custom written tunes or arrangements by programmers.

If you are after a star rating of the sample playing programs I'm afraid you are going to be disappointed; the thought of hours of Jean-Michel Jarre and The Pet Shop Boys plus the added bonus of Kylie Minogue complete with graphic renditions of her in four poses seemed like too much excitement for one issue. If you want a rundown of the second section, the more creative programs, however, read on. ➧

AEGIS SONIX PLAYER

Purple PD Disk Music 00

This is a simple player routine that will play back any scores created on the Aegis *Sonix*. As there are many disks available with tunes and instruments that are created by this, a player program is essential in order that you can listen to any of them.

Not only can you play the scores but you can also create *PLAY* scripts that play multiple scores: that is, one following another, sometimes termed as 'jukebox' style. This allows you to play continuous music which could be reasonably handy for slide shows and other home-spun graphic entertainments. On the other hand you just might like to bore people out of their skulls! It would certainly be interesting background music.

PLAY has the ability to start a score playing whilst loading up the next one simultaneously. *PLAY*, like the player program itself, can be used from either Workbench or the CLI. If you have no particular desire to create music but just wish to listen then this is for you. Thrown in for good measure is an LED routine which switches the audio filter in or out on the 500 and 2000 models.

It comes complete with full documentation on how to run the PLAY routines and a sample of tunes to keep you amused. The program is Shareware and the author would appreciate $10 to make you a legal user, as they seem to say on these occasions.

ASSORTED SONIX TUNES

Purple Disk Music 1 – 9

In the wake of the *Sonix Player* comes a whole string of compatible score files on no less than nine disks from Purple. Most of the tunes are original compositions and the sounds are custom designed for them in many cases. Even if you don't like the tunes you can always store the instrument files for your own use later on!

SOUND MONITOR V1.0

17Bit Disk 478

Written by Brian Postmas from Holland, this is a powerful sound editor combined with the tried and tested *Amiga Sound Tracker* in slightly revamped form. As it stands it requires additional instrument disks to get it under way properly; these are available on 17Bit Disks no 479, 437 and 41, corresponding to sound libraries ST-01, ST-02, ST-03 which may be listed in other libraries.

A second version is under development. This will probably include a file requester and gadgets. A demo of Version 2 is included on the present disk. Version 2 uses internally created sounds as opposed to V1 which works with sampled sounds entirely. An editor for the waveforms is also added in V2 and the sounds can be edited both numerically and graphically by redrawing the waveform display simply using the Amiga mouse.

The program incorporates a sound editor, preset editor, utilities, demo scores and an assembler routine for use in your own programs. It loads up without Workbench and you get a loading screen with scrolling information. Oddly enough, it seemed a bit silly that there was not a sound track to accompany this – I thought my monitor had broken!

Anyway, having scratched my head a little, I discovered that to gain access to the program proper you hit the Help button. This causes the program to boot up and it comes up with a function menu run from the functions keys. There are also 14 demonstration scores to play with if you didn't get the accompanying sound disks at the same time.

Building Blocks

The main screen is divided into three blocks. The right-hand block shows the instruments used with the active one underlined. A handy counter underneath shows the length of the piece and how far into it the program has got. The top left-hand side of the screen shows the step-editor and the bottom left the pattern editor. In other words, the program creates small patterns which are then chained together to form the piece as a whole. Each pattern can contain up to 16 notes and, like *Sound Tracker*, the pitch of the note is put in from the qwerty keys which become a piano-like keyboard. Every note is assigned an instrument which may or not be the same as the preceding note. As a result, remarkably fast sound toggles are possible therefore.

Each note can have a number of options: arpeggio, volume, repeat note data, note glide up and down, auto note glide and a choice of six note lengths (incorrectly described in the documentation as Tempo).

A little note of warning though. The entire program requires all numeric data to be entered in hexadecimal and all editing of songs and sound data is achieved in the form of data stream with no graphic or visual editing at all. However, finding your way around the program is made quite easy with plenty of help on toggled pages and it makes great use of the function keys to get from section to section.

Metal for Programmers

The results are very good, although decidedly not for the faint-hearted. If you are more biased towards programming than music then it should not present too much of an obstacle.

Once patterns have been created, and it will store up to 341 patterns, they are organised in the step-editor, which corresponds to a 'chain' function. Any pattern can be transposed in its entirety and you have to tell each one of the four sound channels what it is doing for each step.

Sound Monitor will hold up to fifteen instruments and can request any four of them to work-simultaneously. The samples or sounds can also be edited in terms of length, volume, start repeat section of the sound and the the repeat length – the latter two give you more sustained sounds from a short sample.

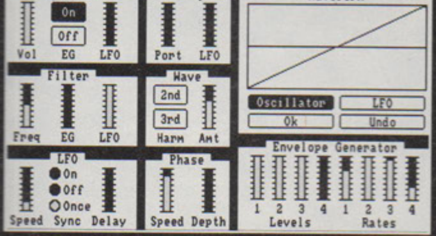
To get a list of songs available press the left Amiga button and N. N and M toggle between the song list and the main screen. Half the songs don't run on this version but the ones that do require the ST-01 disk to pull the sounds from. Some of them combine samples to great effect – check out *'Freddy Mix'* for this. Although several of the songs are game themes there are a few interesting compositions using some really quite excellent sounds. ▶

THE NEED TO PLAY

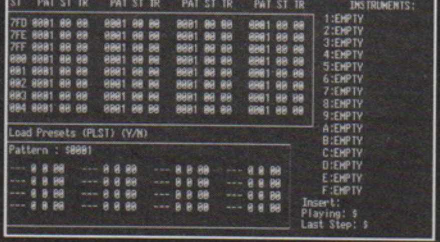
It might be an appropriate moment to point out that some PD libraries, Softville for example, offer sets of disks that contain mainly original tunes in *Sonix* format and each disk is a 'stand-alone' containing a player routine. However you couldn't then have them playing in turn as per the *PLAY* routine contained on the Purple disk unless you got down to some serious work and crossed them over to work with *PLAY*.

It is the norm for PD libraries to have one or more player programs followed by a suite of tunes and sounds on ensuing disks. Sonix is about the most widespread music program but there are others. Their formats are not always compatible and not all programs will allow you to create your own sounds and music.

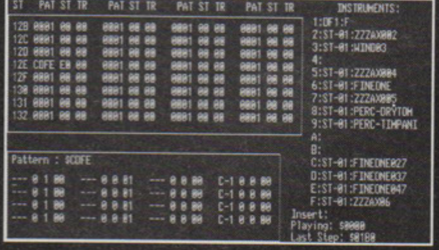
The description of the software should state what program/format the scores have been created in and all is not lost as there are conversion programs about around that convert music files from one player format to another (e.g. *Amicus 23*).



■ **The original Aegis *Sonix*, a soundchip music programmer used to create so many tunes in the Public Domain. They can be heard with the Player on Purple PD Music 00.**



■ **The main editing screen from Brian Postma's *Sound Monitor* program. Currently no song information is loaded: a swift fiddle with the Function keys will provide...**



■ **...a song from the drawerful supplied on the disk. Most of the information for the instruments, arranged down the right-hand side, is in the ST-01 library on Disk 479.**

One good feature was that the program is copiously documented and the each document can be printed out without any trouble. Besides the assembler utility there are two sound converter programs which convert songs from either *Sound Tracker* or *Zoundmonitor*. There is also a checking routine for these. Although *Sound Monitor* is not an easy program to get to grips with, it is nevertheless a very powerful program and the final results are excellent: definitely not to be sneezed at.

The author credits Rush, Metallica, Megadeth and Sanctuary for aural stimulation whilst writing the program. Erm... not too sure about this as a recommendation, chaps...

MIDI DISK #1

Purple Disk SOFT 010

Working from either CLI or Workbench, the utilities available are a simple MIDI real time sequencer, several CZ-101/1000/3000 voice librarian programs which work with the Casio synths in the CZ series, an improved MIDI sequencer, and a set of scores that will run on both MIDI and the *DeLuxe Music Construction Set*.

It also includes a complete set of instructions plus hi-res circuit diagram which will enable you, armed with a soldering iron and steady hand, to build your own Amiga MIDI interface. This disk is also available from many other Public Domain libraries.

Sequences and CZs

The sequencer, under the heading of MIDI Utility program, will let you record a sequence, play back a sequence and then save/load it to or from disk. This is of course very simple and you have no channelization facilities, no editing and no overdub possibilities, but there you are and there you go.

Of slightly more interest are the CZ utilities which run only on the 101/1000 synths. These let you load voice data to or from synth and disk either in banks or individually.

Using it is unbelievably simple. Each command has a prefix letter. Enter that and that's all there is to it. To list the voice files available you exit the main program and load up the files document. The Utilities program itself is listed and parts of it could be incorporated in your own work.

Lots more CZ voices are available in a separate CZ program and included on the disk is a *CZL* program which makes a far better job of the voice librarian and sound editing functions than the Utilities program. *CZL* makes it easier to select instruments, stores the instruments individually or in banks and finally provides an easy method to examine, enter and modify the instrument parameters. All instruments/sounds are displayed on screen and can be selected with the mouse. Any instrument you might select on the CZ itself is automatically updated on the program and similarly any instrument or bank or instruments when downloaded to the Amiga from disk is automatically loaded into the synth. Any parameter changes to the sounds are also automatically transferred either way from synth to Amiga.

Alterations that you make to sounds can be compared with the original voice as it stores all edits in a temporary buffer. There is also a useful 'cut and paste' routine which stores selected data from one voice and enables you to paste it into another, saving lots of tedious work setting up sound envelopes.

A 'play scale' function is also included. It does exactly what the name suggests and lets you test out the new voice straight away - handy if the synth is the other side of the room.

CZL works with all CZ's and not just the 101 – it was originally run in on the much larger CZ3000. To get the program up and running therefore you will need to configure it to work with your CZ, giving it such salient pieces of information as the number of voices the library can expect to receive and deliver in one go and the names you assign to each voice – Casio saw fit not to include the voice name transfer as an intrinsic part of their MIDI set-up.

It comes with vast quantities of documentation and generally seems to be a happy and versatile program to work with. The only upgrades I could think of would be the inclusion of a 'randomize' function to create new voices and maybe a graphic display of the envelope waveforms to enable waveform editing visually with the mouse rather than numerically.

Andrew Lloyd Who?

The *DMCS Music*/MIDI files are not exactly a scintillating collection; a piece of Bach plus Lionel Richie and Andrew Lloyd Webber (poor old JSB to enjoy such company!) However the documentation does go some way to explaining how to hook up a Yamaha FB01 tone module to get the best out of the tunes although I really could have done without the boring heart-to-heart explanation of why the Bach piece had been programmed in the first place – we are talking about music and software, not running an agony column/self-help therapy group.

There is a follow up disk SOFT 011 from Purple (confusingly labelled MIDI#1 also) which contains more MIDI files, CZ instruments and *DMCS* files.

AMICUS 23

Purple Disk AM23

This contains a pot-pourri of items. No MIDI but some useful converters that convert old versions of *Music Craft* files to *SMUS*, *SMUS* being the IFF standard. The other file converter works on *Music Studio* files and renders those into *SMUS*. Apart from these it has a set of *SMUS* instruments, a set of *SMUS* songs that are mainly classical in flavour with a long explanation about the fact that they are out of copyright and therefore entirely legal and decent.

There is a full-blown 18 minute version of Tchaikovsky's 1812 overture compete with cannon effects but you will need at least 1 meg of memory for this epic, and probably sympathetic friends and neighbours. There is a *SMUS* player on the disk so that you can achieve this minor miracle. ■

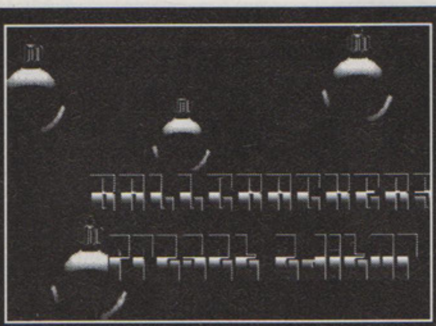
SOUND PLAYERS

There are many other Amiga sound players available. The names that usually crop up are *SMUSPLAYER*, *Concert Craft Songs*, *Music Studio*, *Music Craft*, *Sonix*, *DMCS*, *Sound Tracker* and the latest at present is the *Games Music Creator* from 17Bit (Disk 482).

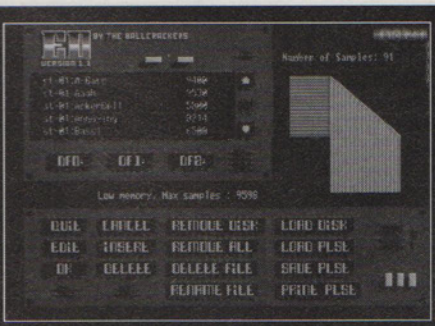
This last was reviewed in Issue 4, November, and works rather in the manner of *Sound Monitor* reviewed in this section. However, *GMC* is very versatile, visual and colourful and can load up any sampled sound at any time from any disk to create your masterpiece. It is definitely easier to use with its approach that comes much nearer to the standard MIDI sequencer environment. Speaking of MIDI, *GMC* also records via MIDI.

Watch out for *Musical Enlightenment* due for release about now from 17Bit. Although not strictly PD it is a superior version of the above mentioned programs. Naturally it will be reviewed in these hallowed pages just as soon as the lads send us a working version complete with instructions (said he, mysteriously).

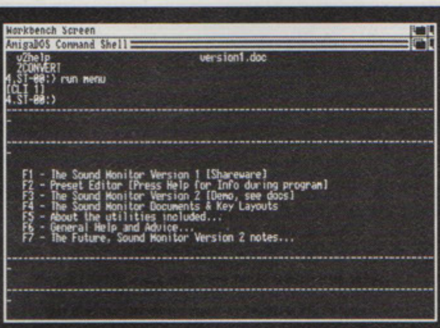
There are many other utilities, especially MIDI utilities, which will need to be covered in a further update on the music aspect of Amiga PD software. Watch this space for further details. Meanwhile any comments, hints or musical questions that you may have are best directed to this column. We'll publish the best together with the answers.



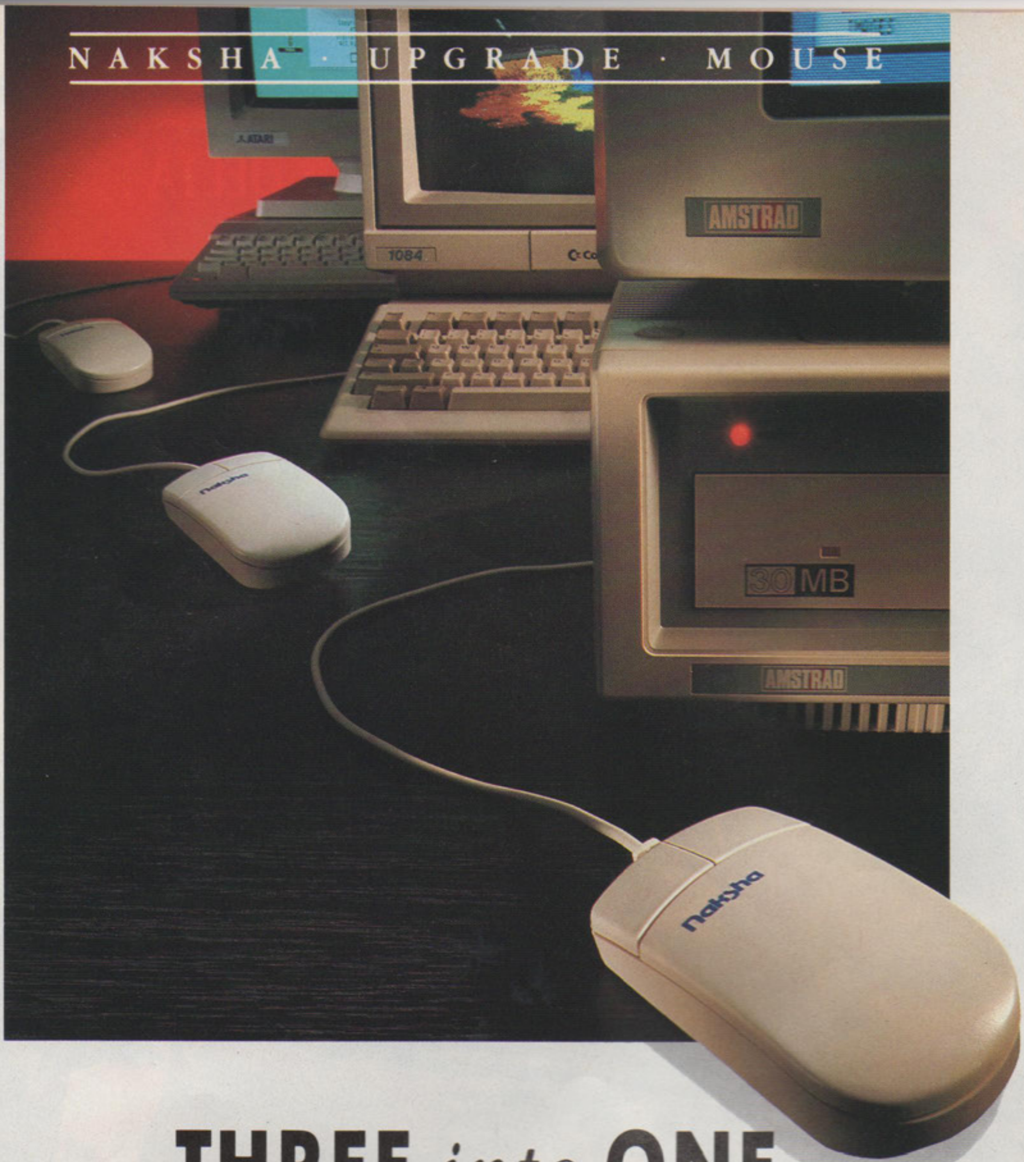
■ **The rather festive and appropriate opening screen for the Preset Editor, an adjunct to *Sound Monitor* by the Ballcrackers.**



■ **The Ballcrackers Preset Editor itself, very professionally-presented indeed. All functions are controlled with the gadgets.**



■ **Last, but in actual fact first, is the menu screen of the *Sound Monitor*. Notice that a demo of *Version 2* is already on display.**



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The Photosniper certainly is an impressive piece of kit. Not only does it come with the snazzy rifle grip and 300mm lens but it also includes a 58mm lens, selection of five filters, two screwdrivers and two re-usable film cassettes.

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- **c) DIM**

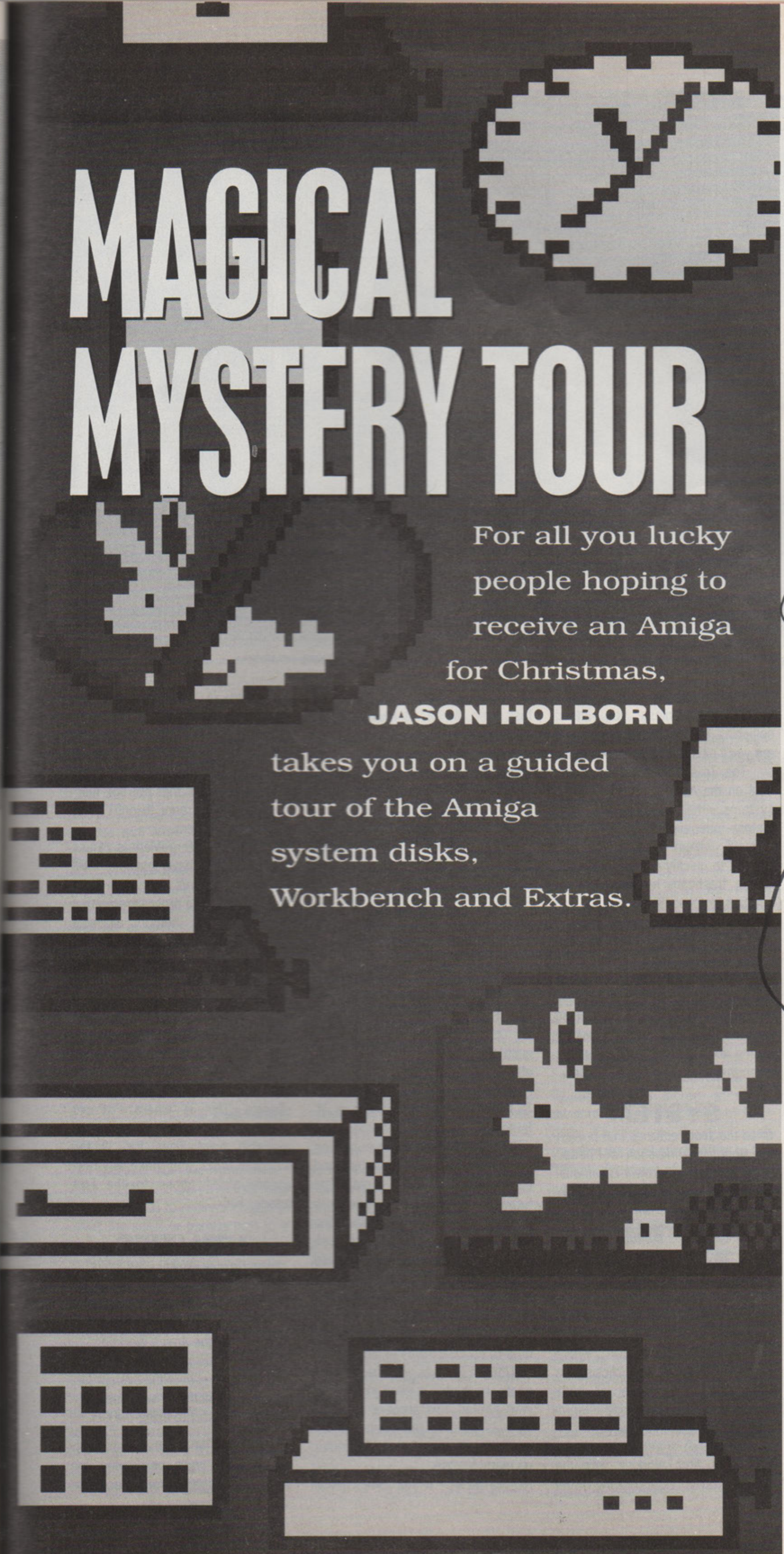
3. Which of these is a type of camera lens?
- **a) Pigfoot**
- **b) Birdwing**
- **c) Fisheye**

TIE-BREAKER

In less than 25 words say which historical event you would like to have photographed and why.

RULES

Employees of Future Publishing and Photofile are not allowed to enter. The judges' decision is final. No correspondence will be entered into.



MAGICAL MYSTERY TOUR

For all you lucky people hoping to receive an Amiga for Christmas, **JASON HOLBORN** takes you on a guided tour of the Amiga system disks, Workbench and Extras.

Christmas is almost upon us, and you can bet that Santa will be overloaded with Amiga-shaped presents for all the lucky boys and girls. Imagine the scene: there you are excitedly tearing through the wrapping paper and packaging – while your children look on? – until eventually you reach your final goal, the fabled Amiga.

Casting the manuals aside, you connect everything up, turn on the power and the Amiga springs to life on the monitor screen. But what's this? All the machine seems to want to do is to display a picture of a hand holding a blue floppy disk. Why won't it do something? What do you do now? What use are the 'Workbench' and 'Extras' disks that you found lying at the bottom of your Amiga box? All will be revealed when you book your seat on the *Amiga Format* 'Workbench' mystery tour.

Amiga Overview

One of the first things that you will come to realise is that the Amiga isn't like anything you've ever used before. Even if you have used other 'WIMP' based computers, such as Apple's Macintosh or an Acorn's Archimedes, you'll soon begin to find that the Amiga is a different beast altogether.

Unlike the Archimedes and the Atari ST, the Amiga desktop environment, called Workbench, won't appear unless you first insert a disk that loads it into memory. Workbench is built on a ROM-based operating system called Kickstart that contains the 'Intuition' windowing environment (the WIMP system), Exec (the Amiga multi-tasking manager), AmigaDOS (the disk operating system) and other system libraries that make up the Amiga operating system.

Since the release of the Amiga way back in 1985, the machine's operating system has undergone four separate revisions (although A500 and A2000 owners will only have seen two of these). Original A1000s were sold with 1.0 of the O/S, which was quickly succeeded by 1.1. These O/Ss were rather buggy, however, and so version 1.2 was eventually released to make the Amiga a more useable system. Current Amigas come complete with the latest version of the O/S, version 1.3, which is very similar to 1.2 apart from a few minor bug fixes and the provision of a hard drive boot option.

To tell which version of the operating system your Amiga contains, turn on your Amiga without a disk in the internal drive and the familiar 'hand-holding-disk' image will be displayed. Underneath the hand will be a number. If it says '1.3' then you have the most recent release ▶

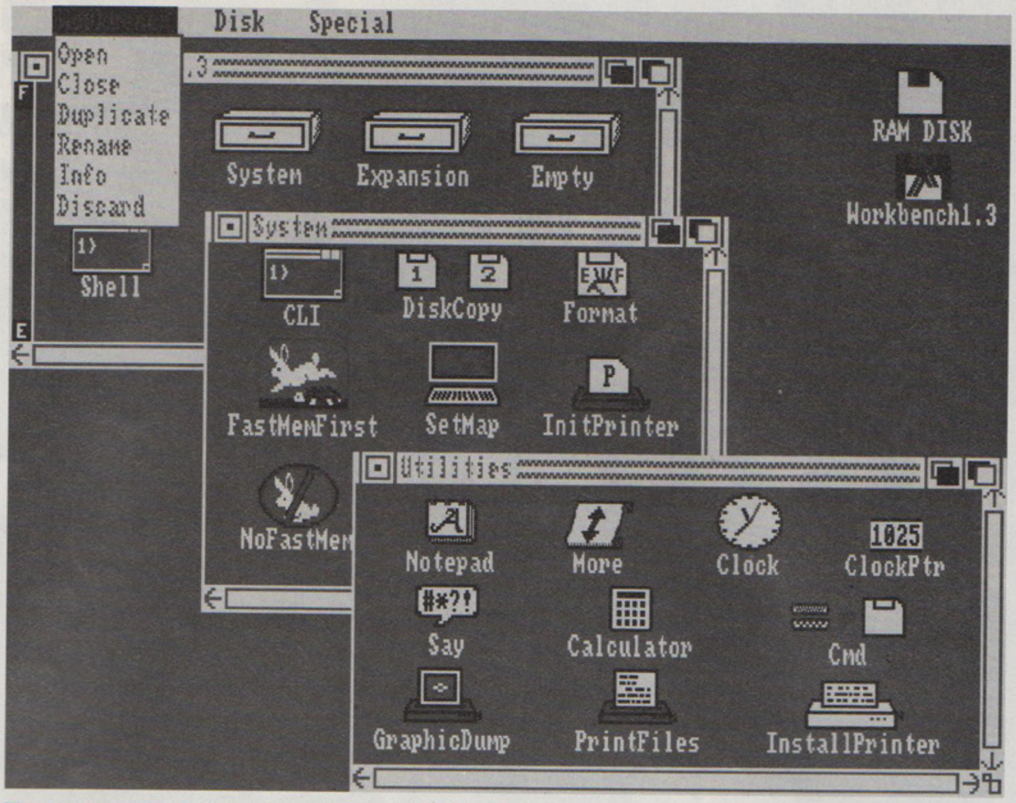
of the O/S. This feature is based around version 1.3 of the O/S, but most of the info will also be of use to users of earlier versions of the O/S (why haven't you upgraded yet!)

The Amiga operating system is a rather complicated beast for even the most experienced of users, so we'll forget about some of the more intricate details for the time being.

Back to Basics

At its most basic level, Workbench is fairly simple to use and you'll soon find yourself happily using it after a matter of minutes. All the functions of Workbench are controlled using the Amiga mouse and its two mouse buttons.

A complete tutorial on using Workbench would fill this entire feature, so we'll leave that in the capable hands of Commodore. "You want us to actually read the manuals?", I hear you ask. Not at all. You may have already noticed that your Amiga comes with not two, but three diskettes. That elusive extra diskette is actually a rather nice interactive tutorial which will teach you everything to need to know about using Workbench.



The Amiga screen with Workbench disk and all the Workbench drawers on show.

The Tour Begins...

The aim of this feature is to take you on a guided tour of your Amiga system disks, detailing everything you're likely to encounter. The first thing we must do is to get the Amiga up and running, so insert the disk labelled 'Workbench' into the internal disk drive and we'll begin. Don't worry if your machine seems to take an age to actually load the Workbench, it'll get there eventually!

THE WORKBENCH DISK

We'll start the tour by looking at probably the most important Amiga disk of all; the Workbench disk. Although the Amiga can quite happily run commercial software without this disk, the Workbench is your ticket to the Amiga's windowing interface and disk operating system.

Once you double click on the Workbench disk icon, a window will open to display the top (or root) directory of the disk. Most of the items within this directory are merely drawer icons which give access to further subdirectories. However, the Shell icon will give you access to the Amiga's powerful Command Line Interface (more on this later).

The more important drawers (System, Prefs, Utils) will be looked at later, but less important to most people is the Expansion drawer. The drawer contains specialist device drivers for add-ons such as touch tablets etc. Unless you intend splashing out on luxuries, chances are you'll never use this directory.

The Trashcan is bit of a lost soul on the Amiga. On other WIMP systems, the trashcan is completely independent of any disks that are current in the drives, and is used to quickly discard files. The Amiga trashcan, however, is just another directory like any other and is used as a temporary storage area for files that you wish to eventually discard. Unfortunately, like other directories, any files within the trashcan will still take up valuable disk space, therefore making its use rather long winded. Just try asking experienced Amiga owners when they last used the trashcan!

SYSTEM

Of all the subdirectories that branch off from the Workbench root directory, the System drawer is without doubt the most important of them all. Here's a rundown of the programs you're likely to find:

CLI – The Command Line Interface provides an alternative method of controlling the Amiga. In fact, using the Command Line Interface (CLI from now on) is a little like using a machine such as an IBM PC, where instead of pointing and clicking on icons using the mouse, all commands are issued by typing them in manually using the keyboard.

If you wish to get the very most from your time working with the Amiga, a basic understanding of the CLI is a necessity. Carrying out a task from the CLI is much simpler and quicker than attempting to carry out the same task from the Workbench. In some cases the CLI offers facilities which aren't even available from the Workbench!

DISKCOPY – With a filename as subtle as a sledge hammer, I'm sure I don't need to tell you what this command does. Do I?

FORMAT – Before a disk can be used to store data, it must first be initialised. For this task, the Format program is your person.

FASTMEMFIRST – FastMemFirst attempts to force programs into expansion memory, therefore freeing up valuable chip RAM for data such as graphics, sound samples etc. If you only have 512K, then FastMemFirst will have no effect.

SETMAP – Because of language differences, different countries use different keyboard layouts on equipment such as typewriters and computers ($'s and £'s etc). The SetMap command is used to change the keyboard configuration to any one of several presets available. For UK Amigas, the keyboard configuration is automatically set to 'GB', but this can easily be changed to anything from American (you've got three different US keyboard layouts to choose from!) to Greek.

INITPRINTER – As the name suggests, InitPrinter is used to initialise your printer. This process basically involves reading the printer driver into memory and setting the printer up ready for use.

NOFASTMEM – If you have a RAM expansion in your machine (ie, you've more than 512K of memory), then the NoFastMem command is used to disable this. This is necessary with some very old (or badly written) software that will not function correctly if more than 512K of memory is resident.

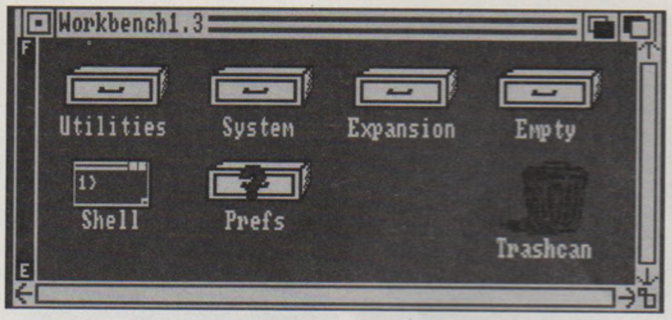
MERGEMEM – MergeMem is of use to users who have multiple RAM expansion boards connected to their Amigas. The program attempts to pull all free memory available across RAM boards together in one, continuous 'memory pool'. Definitely one best left for the techies.

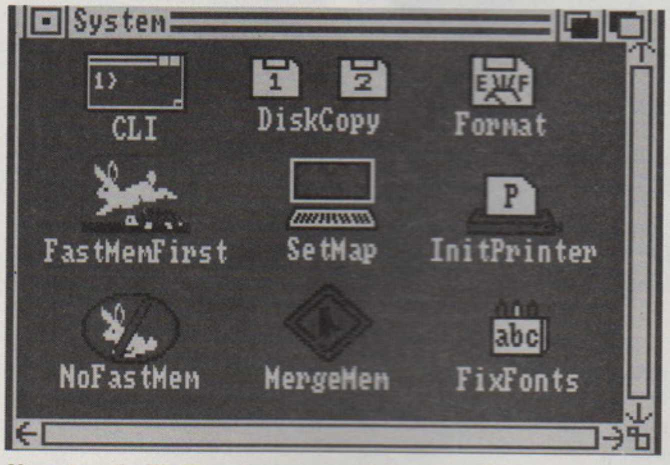
FIXFONTS – Adding or removing a point size for a particular font isn't just a case of copying the new font data directly into the Workbench fonts directory: the font's header file (.font) must be informed of the change. This is where FixFonts comes in. FixFonts will check all available point sizes for all the available fonts, and make any necessary modifications to the font header file.

UTILITIES

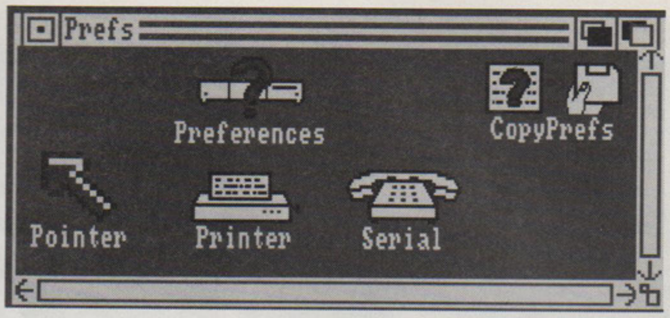
The Utilities drawer contains a whole host of useful little utilities to make the life of an Amiga user much simpler. Most are new additions to the Amiga Workbench, and are designed to provide greater control over the system for the Workbench user who doesn't want to resort to using the CLI.

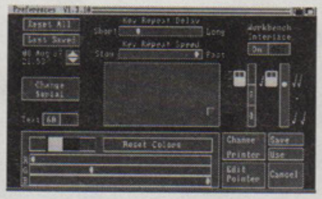
NOTEPAD – What's the first piece of software you'll be buying for your new Amiga? A Word Processor

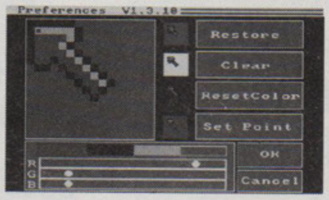




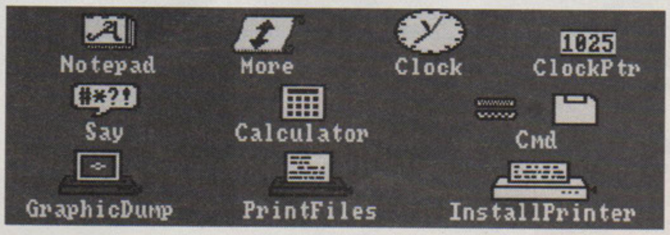
Above top, the Workbench drawer, and above, the System drawer.







Above: the Preferences drawer, top, and the Prefs and Pointer screens.



The Utilities drawer displays its wares.

perhaps? NotePad is a mini-word processor to keep you going until your fully-fledged word processor arrives. NotePad allows multiple fonts onscreen, full cut, paste and copy and search and replace.

MORE – Display the contents of any text file with More, a powerful text display utility.

CLOCK – Keep track of time without taking your eyes off the screen.

CLOCKPTR – Even more convenient than an onscreen clock, ClockPtr attaches a digital clock display to your mouse pointer.

SAY – You've probably already discovered the Amiga's powerful speech synthesis capabilities. Say can be used either to read out existing text files, or just as a fun toy to allow you to experiment with this powerful facility.

CALCULATOR – In true multi-tasking style, the Workbench calculator will happily run alongside any program that operates from the Workbench.

CMD – CMD is a powerful little tool that allows you to redirect output to either the serial or parallel port to a designed disk file. This allows you to print things out while your printer is off-line. When you are ready to finally print, the outputted file can then be sent straight to the printer.

GRAPHICDUMP – GraphicDump attempts to dump the frontmost screen to the printer. To give you time to bring the desired screen to the front, GraphicDump will wait 10 seconds before it starts to print.

PRINTFILES – Want to take a hard copy of a text file? If so, then PrintFiles is the tool for the job.

INSTALLPRINTER – Guess what this program does! Surprisingly, the answer isn't as obvious as it may seem. What InstallPrinter actually does is to copy printer drivers on your Extras disks across to the Workbench disk. Once copied, you must then use the Workbench Preferences tool to select the driver to be used.

PREFS

Although the Prefs drawer appears to contain five separate programs, strictly speaking, only two exist: Preferences and CopyPrefs. The remaining three icons (Pointer, Printer, Serial) merely call separate parts of the main Preferences program. Read on for more...

PREFERENCES – The Preferences program is one of the most important programs on the Workbench disk. Its sole role in life is to allow you to customise (or 'configure', as Commodore would no doubt prefer) your Workbench to your heart's delight. Once any changes are made, the new configuration can be stored for recall whenever the Amiga is rebooted from the Workbench disk.

The program is made up of four separate sections. The first page pops up as soon as the Preferences program is run. From this top page, the general configuration of the Workbench (colours, screen positioning, text size etc) can be changed.

Next up, and probably most important of all the pages, are the printer configuration pages which are used to install your printer onto the Amiga system. Printers may be connected to either the parallel or serial ports, therefore Preferences also includes a serial port setup page. Baud rates, handshake type, stop bits and other techie things that only comms users understand can be easily be set.

Most fun of all is the mouse pointer editor which, as the name suggests, allows you to change the general appearance and colour of the mouse pointer sprite. The sprite will not take on its new form until you exit back to the main Preferences page.

COPYPREFS – CopyPrefs is used by people who have assigned the logical path where the preferences configuration file is stored, to something other than the standard boot disk. Clicking on CopyPrefs will transfer the configuration file to the 'DEVS' directory of the disk currently inserted in the internal drive.

WHAT YOU CAN'T SEE

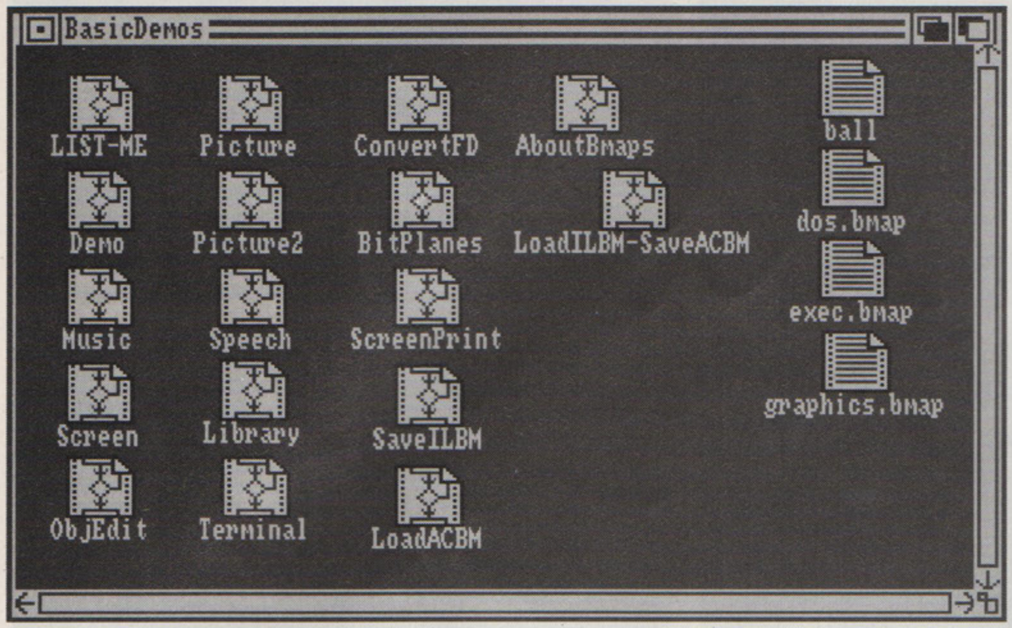
To the casual Workbench user, the Workbench disk appears to be a just a collection of tools and utilities to carry out such mundane tasks as formatting and managing disks, installing printer drivers, setting screen colours etc. However, hidden deep below the surface of your Workbench disk is a vast array of hidden files that provide you with unparalleled control over your new machine.

These 'hidden' files are accessed from the Command Line Interface (see above for more) and allow far greater control over the Amiga. The most commonly used CLI commands are DIR, which displays a listing of the contents of a particular directory, COPY, which copies a file (or files) to a user specified destination, and CD, which allows you to move around, and in between disks. If this taster of the CLI has whetted your appetite, watch out for future articles in *Amiga Format* on this feature.

The Workbench disk also contains all those important little files that actually make the Workbench work. Most are simply auxiliary files used by the Amiga system, but for the curious among you here's a list of those hidden extras.

DEVS – Short for devices, the DEVS directory contains O/S device drivers for the parallel and serial ports, printer output, the RAM disk, the Amiga speech synthesiser etc. DEVS also contains two sub directories containing the system keymaps used by the SetMap command and the printer drivers.

LIBS – Yep, you've guessed it. LIBS is short for libraries. This directory contains complicated operating system libraries. A library is basically a collection of routines that, once opened, link into the operating system to allow control over a particular aspect of the machine. For example, the library diskfont.library is used by programs that wish to take advantage of the Amiga's ▶



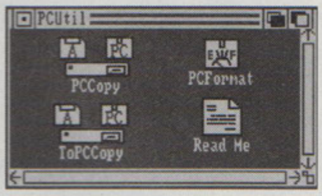
Basic Demos: some useful pieces of code.



The Extras drawer.



The Tools drawer.



The PC Utilities drawer.

powerful font handling capabilities.

FONTS – Doesn't take a brain the size of a planet to guess what this directory contains. Any program that allows different fonts to be used will always read its fonts from this directory, unless told otherwise (that's got you confused, hasn't it!)

C – The C directory contains all those lovely CLI commands that I mentioned earlier, all as separate program files.

S – The S directory usually contains AmigaDOS batch files (or sometimes called Script files – hence S for Script). Batch files are ASCII text files containing a list of CLI commands to be run when the batch file is 'executed'. Don't worry about batch files for the meantime, we'll have plenty of fun with these in future articles!

L – The L directory contains device handlers that AmigaDOS uses itself to carry out such tasks as disk validation, RAM and port management etc.

THE EXTRAS DISK

The Extras disk contains a host of different utilities and auxiliary files that are designed to further enhance the Amiga Workbench environment. Most important of them is all is AmigaBASIC, a powerful MicroSoft BASIC interpreter.

AMIGABASIC – Unlike eight bit computers like the Commodore 64, the Amiga's BASIC language is not built into ROM. Instead, AmigaBASIC has to be loaded from disk every time it is needed.

Unlike the seemingly accepted norm, the Amiga's bundled BASIC is in fact a very powerful and very usable system indeed. AmigaBASIC was developed by the MicroSoft Corporation, who are probably better known for their activities within the PC market. Although the interpreter is based around the Macintosh version, AmigaBASIC includes many powerful Amiga specific commands.

To help you get the most from your BASIC programming, Extras also contains a drawer that is positively bursting with useful source code. There's example code for such tasks as loading and saving IFF pictures, using the speech synthesiser and accessing the screen hardware.

TOOLS

As the Commodore enhancer manual states, 'the tools drawer contains several utilities that let you `work' with your Amiga.' Couldn't have put it better myself!

MEMACS – Not quite a word processor, MEmacs is an Amiga version of the universally-adopted 'Emacs' text editor that can be found running on machines as diverse as Atari STs and Unix 3B2s.

FED – Now this really is the business. FED is a powerful utility written by Dale Luck of Commodore-Amiga which allows you to edit existing fonts, or even create your own from scratch. Similar programs on machines such as the ST and the Mac could set you back a lot of money, but with the Amiga, you get one for free!

FREEMAP – FreeMap displays the amount of free 'chip' RAM available in a graphical form. Each pixel in the map area represents a 64 byte block of free memory. If any bytes within this 64 byte block are not free, then the pixel remains unfilled.

PERFMON – PerfMon, short for Performance Monitor, dynamically displays the amount of free chip and fast ram, and the performance of the 68000 central processor. While the program isn't really of much use to most users, it's quite interesting to watch.

KEYTOY2000 – Mac users will feel instantly at home with Keytoy2000. Keytoy is an Amiga version of the Macintosh 'KeyCaps' accessory that allows you to view the current keymap setting when various qualifier keys are depressed (Alt, Shift, Control etc). Although the filename sounds like the program was designed for the 2000, 500 users can benefit.

PALETTE – Palette is a simple utility that allows you to change the colour palette of any standard Intuition screen that is currently open.

ICONED – IconEd lets you edit the appearance of Workbench icons using a paint package-like editing system. Just load the icon that you wish to edit into IconEd, make the necessary changes, resave, and your new Icon will be installed.

ICONMERGE – Icons on the Amiga can be a lot of fun. Not only can you create your own using the IconEd utility, but you can also breathe life into your creations using IconMerge. Put simply, IconMerge will let you animate an icon by attaching an extra icon image that will be displayed when the icon is selected. Although this approach is rather simple, some impressive results are possible.

PCUTIL

The PCUtils drawer provides you with the necessary tools to allow the use of a 5 1/4 inch PC disk drive with the Amiga. With the addition of a 5 1/4 inch drive, you can copy files between PC format disks and the Amiga.

PCCOPY – PC Copy allows you to copy files from a 5 1/4 PC disk to a standard Amiga 3 1/2 disk.

PCFORMAT – As the name implies, PCFormat will let you format a 5 1/4 disk to the PC disk format, for use with both PCCopy and ToPCCopy.

TOPCCOPY – ToPCCopy will basically carry out the reverse process of PCCopy, namely copy files from an Amiga format 3 1/2 disk to a PC format 5 1/4 drive. ■

EXTRAS' EXTRAS

With the release of 1.3 of the operating system, the Extras disk has very much become an overspill for files that didn't quite fit onto the Workbench disk. You'll find a mass of spare printer drivers (any one of which can be installed onto the Workbench disk using the 'Install-Printer' utility), a whole host of different keymaps and several new fonts to brighten up your documents (Helvetica, Times etc).

Also lurking on the Extras disk is a rather strange directory called 'FD1.3'. Upon examination, the drawer contains a single icon saying 'IMPORTANT! BASIC FD Files Here!'. 'What are FD files?' I hear you ask. Put simply, AmigaBASIC (and any other languages) can take advantage of operating system libraries that can contain a number of special routines (See intro for more). For AmigaBASIC to be able to access these routines, it must be told the parameter format of each routine, and which processor registers must be used. This information is contained within these special FD files.

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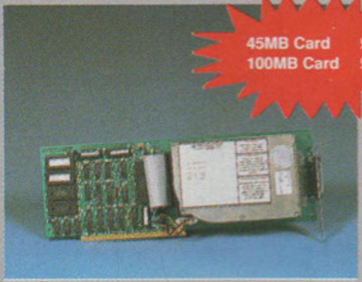
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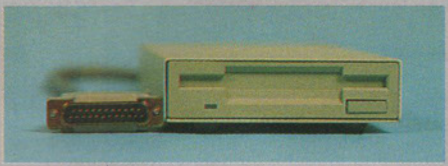
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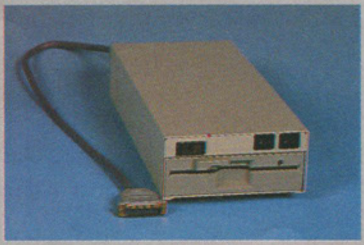
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TO B OR NOT TO B

I am considering upgrading to an Amiga 2000, but Commodore seem to produce two different versions, the A2000 and the B2000. What is the difference between these two machines and will they still run software for the A500?

M Wright
N Ireland

The Amiga 2000 has undergone several major upgrades since its original release. The latest version you can buy is the B2000 Revision 6 that includes the new ECS Agnus, giving access to a full megabyte of chip RAM.

The original release of the 2000, the A2000, has been discontinued and so isn't worth even considering if you want to keep up to date. The difference between this original 'A' machine and the current model B's (Sorry Acorn!) is that he A2000 had no composite output, the second 512K of RAM was on add-on card and the machine used the old rectangular Agnus (therefore making it incompatible with the soon (eventually?) to be released ECS upgrade).



■ It's a 2000, but is it a model B?

BACK FROM THE DEAD

I have been experiencing a phenomenon called Lazarus. There are occasionally bad disks from PD suppliers that require the Workbench DiskDoctor treatment. On re-formatting the disk, it often displays the message 'All Data on LAZARUS will be lost, do you want to continue?'. Could you please tell me what the hell is Lazarus? It is seldom that that the DiskDoctor is able to fix these disks anyway and having to return disks continuously is becoming a real pain.

P Black
Stevenage, Herts

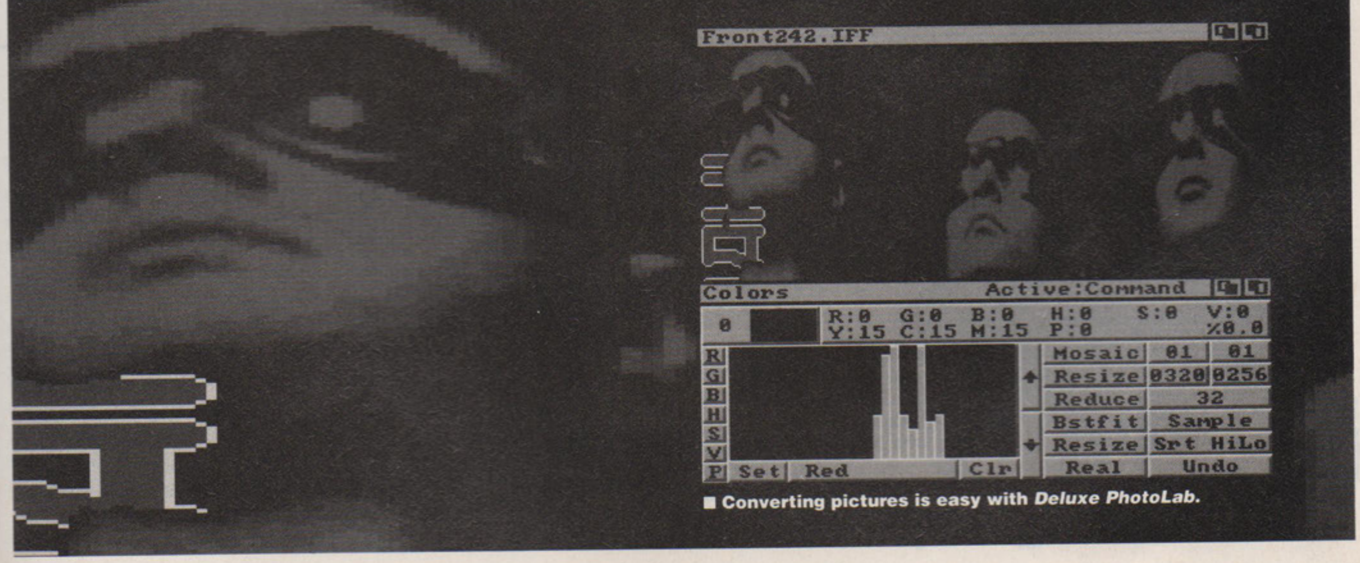
Who hasn't been reading their Bible recently, then? Lazarus was the chappie that Jesus supposedly brought back from the dead. "What has this got to do with the Amiga?" I hear you ask. Well, when the Diskdoctor utility rescues a corrupt disk, it automatically renames the disk to Lazarus. Think about it for a while and you'll soon realise that this is another classic example of what is commonly known in the trade as a 'programmer's joke'.

HAM, CHIPS AND HAM

1. I have been playing around with some IFF file viewing utilities and have encountered a few strange results. The one that you use on your *Amiga Format* coverdisk, VILBM, works fine from floppy and hard disks, but when it is used from the RAM disk, it displays the file and immediately exits back to the Workbench. Is this a bug?
2. Do you know of any utilities (preferably PD) that will convert HAM pictures to non-HAM format for use within paint packages such as *Deluxe Paint* etc?
3. Anyone know how to use icons produced using the PD program *'IconMeister'* with the *BitPlanes* utility on Fish 213?

R Musson
Edinburgh

1. The VILBM program does indeed seem to have a little buggette (or 'undocumented feature' as programmers prefer!) The solution (which isn't a particularly good solution), is to copy the files onto either a floppy or hard disk.
2. During my long travels through the PD libraries, I certainly haven't seen a PD program that will do the job. You could, however, treat yourself to either Butcher II, Pixmate or Deluxe PhotoLab, which are three programs that will do the job rather nicely (we use Pixmate and PhotoLab extensively ourselves). Contact Precision ▸



■ Converting pictures is easy with *Deluxe PhotoLab.*

on 01 330 7166 for Butcher and Pixmate, and Electronic Arts on 0753 49442 for PhotoLab.
3. Haven't played around with the BitPlanes program myself, but I'm sure some helpful reader will come to your assistance (come on, readers!)

READERS' ADVICE BUREAU

If you have a problem, and you can find a stamp, maybe you can find the answer to your problems... with the Workbench helpline. OK, tacky introduction over: if you have a particular query about life, the universe and the Amiga, then the Workbench helpline is for you.

Obviously we can't enter into personal correspondence (so save your stamps, matey!), but we'll try our utmost to answer your questions within these pages. Send your letters to:

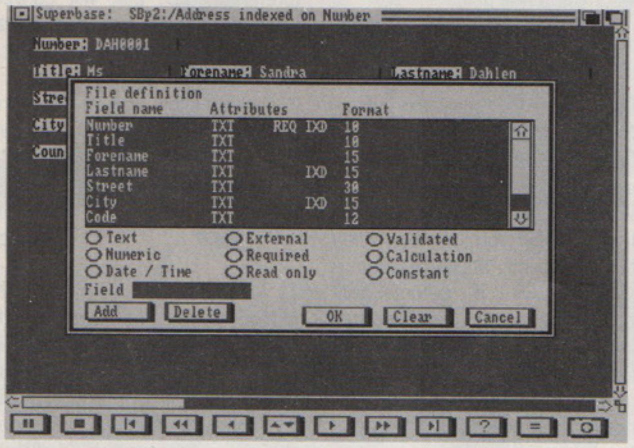
Workbench Helpline
Amiga Format, 30 Monmouth Street, Bath, BA1 xxx

GATHERING INFORMATION

I have just bought an Amiga 500 for my son. Before this, he owned a Commodore 64 with disk drive and a Commodore MPS 801 printer. Is it possible to use the printer with the Amiga?

I also have a large aviary that I wish to 'computerise'. I wish to store details of each bird, its ring number, colours etc. What software do I need?

J Roderick
Address Indecipherable



■ ***SuperBase Personal* in action.**

Trilogic produce a suitable interface to allow you to connect an MPS 803, and could probably help you out with your 801. Try Trilogic on 0274 691115.

The software that you require is a database. One of the best ranges of Amiga database is the SuperBase *series from Precision. The basic system,* SuperBase Personal, *is a fully WIMP-based relational database system that is available from Precision software on 01 330 7166. If it's true power computing you want, Precision also produce* SuperBase Professional 3 *which is a fully programmable database management system that gives such business heavyweights as* dBASE III+ *a run for their money.*

LAME EXCUSE

1. On the November coverdisk, you published the PD program *BezSurf*. The author wrote into it the ability to save the first and next screens, therefore allowing you to create animations using these saved screens. I have looked through some past magazines and have found two programs that I think will let me load in some IFF screens and save them out as an IFF ANIM animation file. The two programs in question are *C-Light* and *The Director*. Are these a good choice?
2. I have been trying to use the Workbench DISKCOPY operation but cannot get it to actually work. I have done precisely what the manual says but all that happens is that a blank window appears and the disk drive hangs. What's going on?

Anonymous

1. Of the two programs that you have suggested, The Director *is probably the best choice. However, a better bet would be either* Aegis' AniMagic *or even* Deluxe Paint III. *For my money, I would personally go for* DPaint 3.
2. Yes, quite a few users have been experiencing this little phenomenon recently. The culprit is, in fact, a little virus called Lamer Exterminator which can easily be removed with a good virus killer (try the UGA PD utility disk 'UUTIL9' which is available from Software PD on 0705 266509. This little chappy will also explain the read/write errors you have been suffering from.)

HARD LOCK!

Protecting important data on a floppy disk from accidental erasure is a simple process: just flick the write protect tab to the correct position and your data is (fairly) safe. But what do you do when you have a hard disk? Try as hard as you might, you'll never find a write protect tab on your hard drive!

Luckily, if your hard drive is formatted under the new Fast File System that was introduced under Version 1.3 of the operating system, then you'll be glad to learn that there is a way of protecting your valuable data. Any Fast File System drive or partition may be temporarily protected against deletion using the Workbench 1.3 Lock command.

The lock command allows you to set the write protection status of drive or partition, which will remain locked until the system is rebooted or you turn the lock off yourself. Optionally, you can even assign a four character password to the locked partition so that only you can then unlock it. The syntax of the Lock command is LOCK <FFS DRIVE/PARTITION> [ON/OFF] <PASSWORD>.

For example, if you wanted to lock your hard drive without a password, you would simply enter Lock DH0: ON. To unlock the drive again, just enter Lock DH0: OFF. If you wanted to lock your drive with a password, you



■ **Still trying to find your hard drive's write protect tab? Read 'Lock On!' for help.**

PROBLEMS WITH THE PUBLISHER



■ **Improve your documents with some Clip Art.**

I am relatively new to the Amiga scene (three months) and so far I have purchased two packages, *Photon Paint* and *Publisher's Choice*. I have collected together a few questions that I hope you can answer:
1. Is there a Public Domain program which will print out disk labels?
2. Where can I buy a cheap collection of clip art images to be used with *PageSetter 1.2* (included as part of the *Publisher's Choice* package), and can any of these images be purchased through Public Domain?

would enter Lock DH0: ON FRED, where 'FRED' is the password to be used. To unlock the drive, you would then have to enter Lock DH0: OFF FRED. Trying to enter just Lock DH0: OFF on a password protected drive will not work.

T Ralph
Broadstone, Dorset

HOT WATER BOTTLE CORNER

Are you having problems removing labels from your disks? Do they tear, leaving a almost unremoveable layer of paper and glue? You need a hot water bottle, matey!

Seriously, though. If you have problems removing disk labels, try laying the disk on a table (label side up) and then place a steaming hot water bottle on top of it for about 30 seconds. After that time, you should be able to easily peel the label off with your fingers.

P Sims
Victoria, Australia

I QUIT!

Unlike most packages, when you select the QUIT option in *DPaint*, the program will not give you the option of cancelling the operation. However, if you have made changes to your art since it was last saved, then *DPaint* will give the option of saving your artwork before exiting. But what do you do if you accidentally select Quit and want to get back to *DPaint?*

Although DPaint doesn't actually have a Cancel Quit option, there is a way around this. When you select Quit, *DPaint* will display a requester allowing you either to drop straight out, or to save your work and then quit. If you select Save, *DPaint* will display a file requester. Now just select 'Cancel' on the file requester and the entire quit operation will be aborted.

J Taylor
Gainsborough, Humberside

DOSSING ABOUT WITH BASIC

OK, you AmigaBASIC programmers, how would you like to be able to execute DOS commands from within your BASIC programs? For example, if you're writing a game in BASIC you could add music to your creation by calling a DOS command to play a Sound Tracker module in the background. You've got to agree, this could be genuinely useful!

The following snippet of BASIC code (or 'stub' as programmmers prefer) calls the ROM Kernel routine Execute(), which is used to launch an external program as a separate task. To be able touse it, you'll need to copy the file dos.bmap from the Basic Demos drawer on your Extras disk to your boot disk's LIBS directory. If the program fails to work, check to make sure that C directory of your boot disk contains the AmigaDOS RUN command. Enough wibbling, here's the code:

```
LIBRARY "dos.library"
DECLARE FUNCTION Execute%() LIBRARY

Command$ = "INFO"+CHR$(0)

CALL Execute(SADD(Command$),0,0)
```

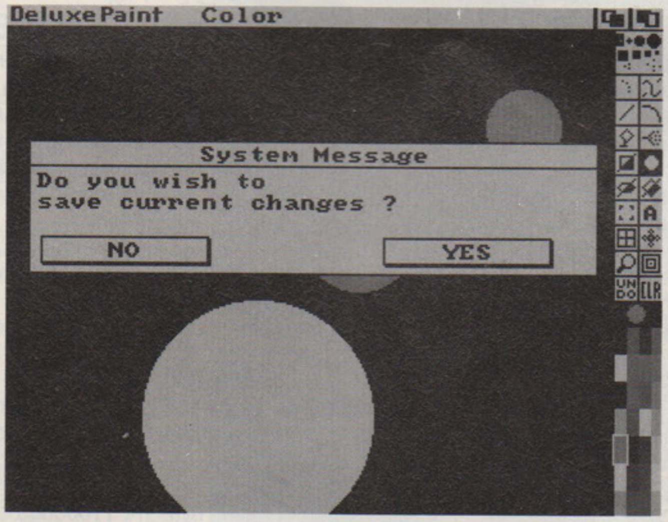
R Anderton
Macclesfield, Cheshire

THE WHICH WAY

You probably already know that AmigaDOS allows you to set up 'Search Paths' that it uses to find programs. When you enter a command at the CLI (DIR for example), AmigaDOS has a list of directories that it will search to find the command that you wish to be executed. As default, these directories are set to the C directory and the current directory. Once you start adding your own search paths, it can easily become almost impossible to keep track of where your commands are stored.

As always, AmigaDOS has a solution to this problem in the shape of the Workbench 1.3 command WHICH. The Which command searches the resident list (created by NEWCON:), the current directory and the AmigaDOS command search paths for a user-specified file. If the file is found, Which will then display the complete pathname where the file is to be found. To use the command, just type WHICH <Filename>, where 'Filename' is your command.

S Peterson
St Ives, Cornwall



■ **Trouble cancelling your saves in *DPaint?* Check the simple tip, left.**

WORKBENCH NEEDS YOU!

Our poor old technical editor has quite a tough time compiling four pages of the very latest and best tips for the Amiga. Why not help him out by sending in your tips and tricks. "Why should I?", I hear you ask. Well matey, not only will you get your name in print but, if your tip is the best of the month, you could win yourself FIFTY GOLDEN COINS for your troubles!

This month's lucky Workbench winner is ANDREW RIDGWICK of Newcastle-Upon-Tyne for his amazing Blitter programming tips. It's Andrew's round I think. Mine's a large one!

---

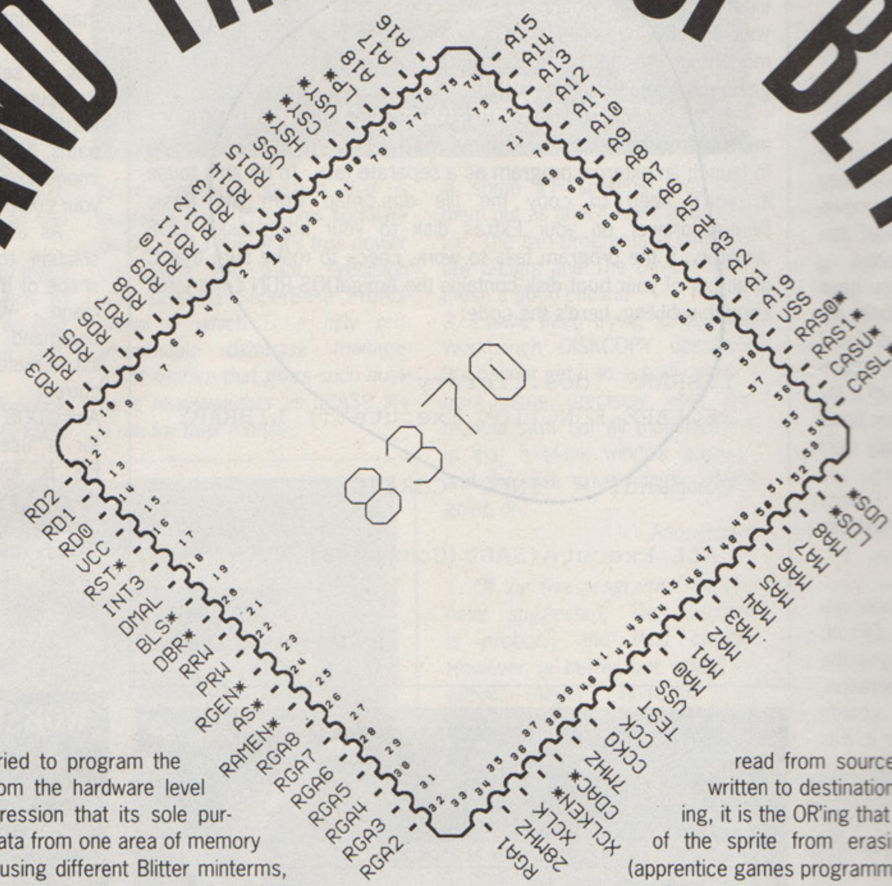
3. I have recently seen an advert for a product called *Zuma Fonts:* please could you tell me precisely what this is, and whether it will work with *PageSetter?*
4. Please, from your own experiences, which are the most reliable public domain companies?
5. I am considering entering the world of MIDI and therefore I need a package which is easy to use, yet versatile. Are there any you could recommend that are under eighty pounds?

B Willcocks
Bournemouth

1. Although PD disk label utilities exist, none are particular good (any PD suppliers can correct me by sending me a copy of the program in question). Instead, why not use PageSetter?
2. As it 'appens guv, Photofile produce a rather nice collection of seven disks for just £35. Give them a bell on 0602 261498.
3. Zuma Fonts is actually a collection of fonts for use within any package that will accept standard Amiga fonts (such as those on your Workbench disk). A better bet would be to contact your local PD supplier who is bound to have a large collection of PD fonts.
4. Put me on the spot, would you? Any PD companies that advertise with Amiga Format will be more than capable of helping you out.
5. The best Amiga MIDI package is Microlllusions' Music-X that we reviewed in Issue 3 of AF. Unfortunately, Music-X will set you back £225. However, those nice chaps at Microlllusions have produced a cut-down version called Music-X Jnr, whic sells for the bargain basement price of only £99. "That's still not under £80 though, matey!", I hear you shout. Well, check out our Mail Order pages (Pages 190-191) and you'll find Music-X Jnr for the amazing price of only £73.95!!! (a saving of over £25!) Plug ends.



TEN AND THE ART OF BLITTING



Anyone who has tried to program the Amiga's Blitter from the hardware level may be under the impression that its sole purpose in life is to copy data from one area of memory to another. Not so. By using different Blitter minterms, it is possible to carry out some quite complicated data manipulations on as many as three separate source channels and have the results combined into one output channel. Below is a run down of the most common minterms that you're likely to need during your Blitter programming sessions.

Name : Memory Transfer
Function : A = D
Minterm Byte : 11110000

This minterm should be familiar to most of you as it is the most common. All it does is to copy the source data from A directly to the destination D without carrying out any form of manipulation.

Name : Inverse Memory Transfer
Function : $\bar{A}$ = D
Minterm Byte : 00001111

This operation is similar to the first except that the source data is inverted when transferred to destination D.

Name : Image Mapping
Function : A + B = D
Minterm Byte : 11111100

This operation is used mostly when dealing with graphics. The source data from channel A is logically OR'ed with the source data from channel B (which is normally the screen memory in which the resulting image is to appear) and the result is stored in the destination area D.

This is one way of creating software sprites using the Blitter, where the data for the sprite is read from source A, the screen backdrop is read from source B and the final result is written to destination D. In case you're wondering, it is the OR'ing that eliminates the blank areas of the sprite from erasing the background data (apprentice games programmers take note!)

Name : Inverse Image Mapping
Function : A + B = D
Minterm Byte : 11001111

As the above operation, except that the sprite data (read from source channel A) is inverted.

Name : Double Image Mapping!
Function : A + B + C = D
Minterm Byte : 11111100

Same as the standard image mapping operation, except that three source channels are used, thus two images can be OR'ed into the screen memory.

Name : Cross image Result
Function : A . B = D
Minterm Byte : 11000000

The resulting image from this operation will show only the places where the two source areas overlap.

Name : Cross Image Mapping
Function : (A . B) + C = D
Minterm Byte : 11101010

As you may have guessed, this operation maps the cross image result of source channels A and B onto the data read from channel C and writes the results to destination D.

For further information on the Blitter and the Amiga hardware in general, check out either Addison Wesley's Hardware Reference Manual (Pages 171 through to 177) or Abacus' Amiga System Programmers Guide (both are fine books!) Aren't minterms fun! ■

Have we got a treat for all you hardware programmers! **ANDREW RIDGWICK** gives you a taster of the powerful data manipulation capabilities of the Amiga Blitter.



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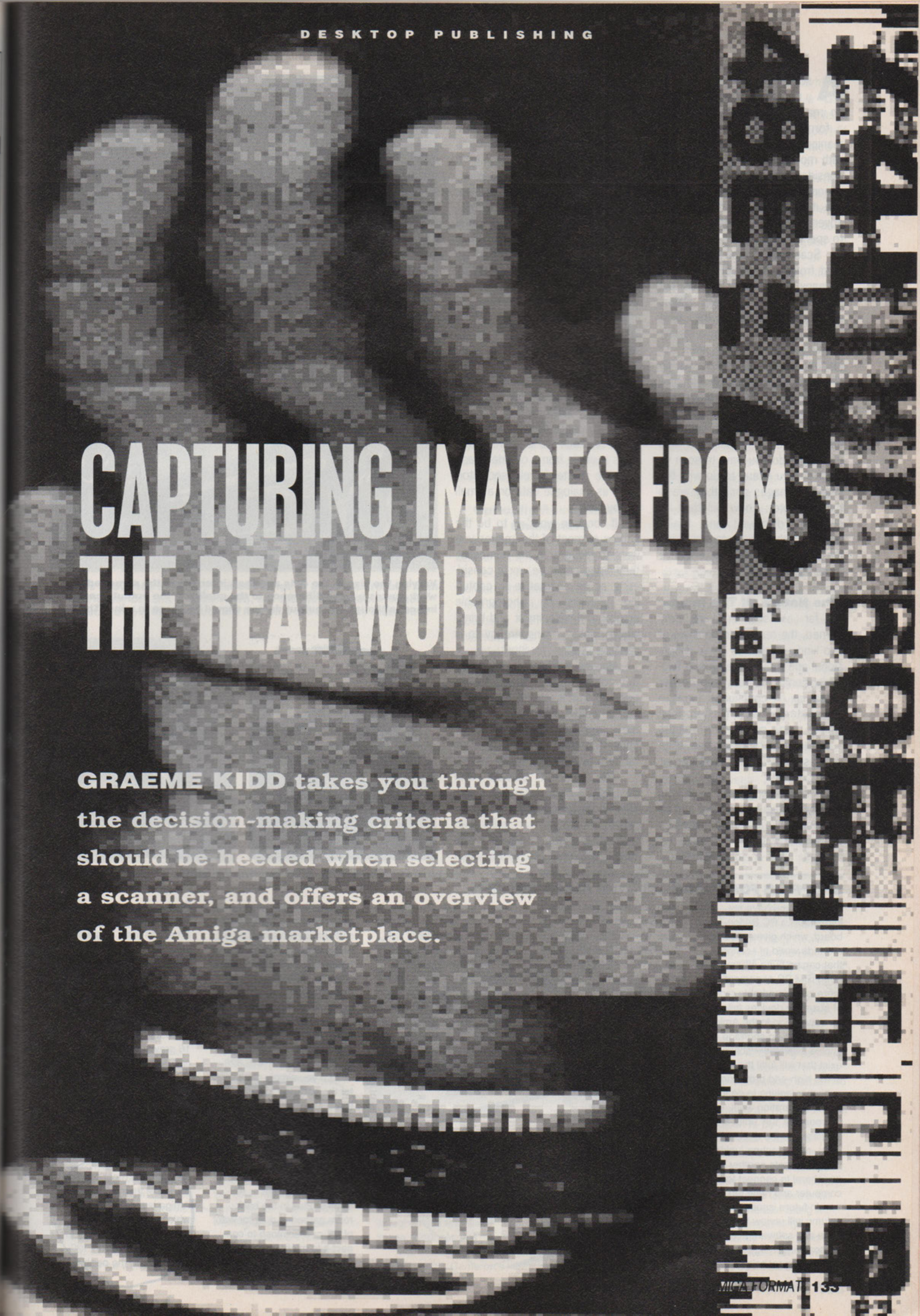
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CAPTURING IMAGES FROM THE REAL WORLD

GRAEME KIDD takes you through the decision-making criteria that should be heeded when selecting a scanner, and offers an overview of the Amiga marketplace.

A scanner is an input device, a peripheral used to convert an image from the real world into a form that can be stored and manipulated on the Amiga. As with most peripherals, it's wise to consider why you are buying a scanner and what you intend to use it for before poring over the advertisements and getting ready to spend money.

Scanners for the Amiga can cost from a little over a hundred to many thousands of pounds, but price and manufacturers claims are not necessarily the best guides to use in making a buying decision. First, you need to identify what you intend to do with your digital device and how you are going to use the scans it produces.

There are four main considerations to bear in mind: what kind of images do you want to scan in; what do you intend to do with the scanned images once they are in the computer; how will they be output or displayed; and, finally, would another route to achieving the same thing be more effective or less expensive?

The Nature Of The Image

As far as scanners are concerned, the real world consists of two kinds of objects – two-dimensional and three-dimensional. Two-dimensional objects are either made up of continuous tones – like photographs, formed from an infinite range or greys or colours – or they can be black and white images such as line drawings or pages of text.

Three-dimensional objects usually contain colour, and can be stationary, like an apple placed on a copystand under a camera, or moving, like a football match, your cat or your mum. In effect, a video camera providing input to a digitising board is a scanner, and such a set-up is ideal both for producing short animated sequences and for capturing images from three-dimensional objects, which may or may not be stationary, with obvious attendant problems.

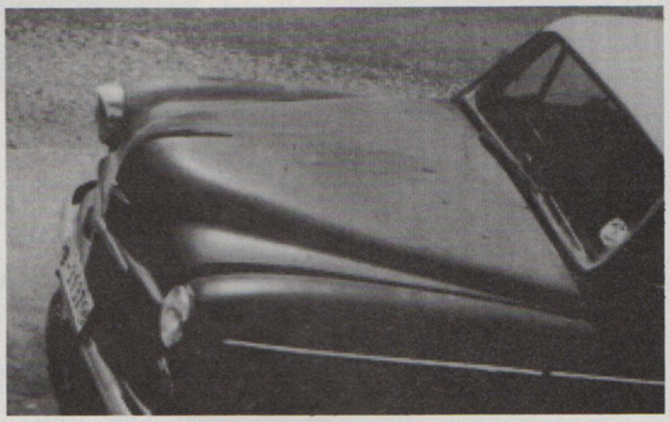
A solid tripod or copy stand plus suitable lighting isn't likely to fit too comfortably on the desktop, but the video route allows you to leave the Amiga behind when you go in search of of images to capture – just take your trusty camcorder along, video everything that moves and then grab the frames you want once you'v arrived back at base.

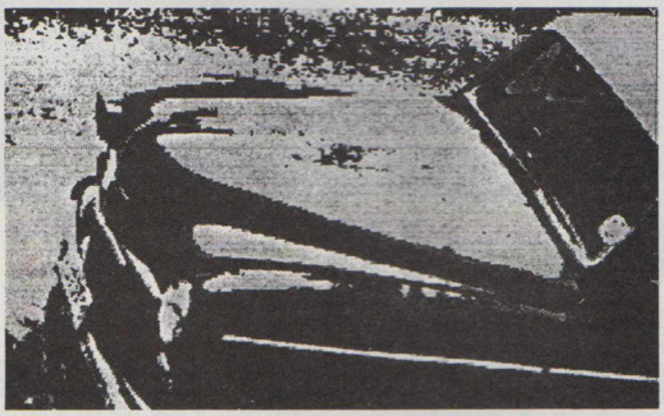
And the Camcorder need not be the only input device. The still video camera (SVC), which is about to reach these shores, captures a single frame of video each time the shutter is released, storing it as analogue data on a small floppy disk.

If 'location work' is to be the source of most of the images you want to move onto the computer, then video could be worth considering as an alternative to capturing pictures on photographic emulsion, developing it and bringing a print or transparency to a desktop scanner for input.

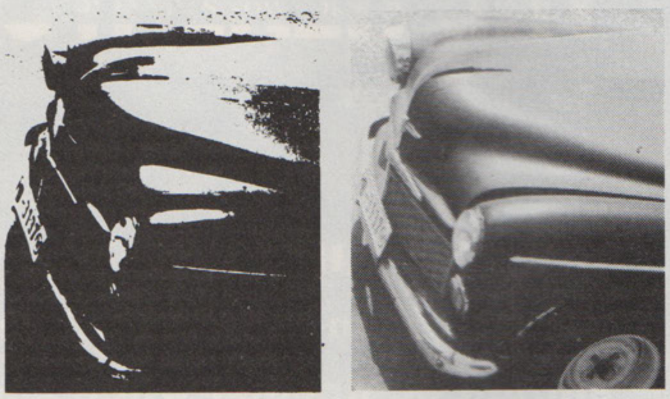
However, there is bound to be degradation of the image information when it is saved to a magnetic medium, SVC disk or videotape, and then read back to be converted from analogue to digital form by digitising hardware.

The trade-off between the cost of a video camera and digitiser board and the resolution which the set-up can offer can mean that more traditional scanning equipment in combination





Varying the size of the dots and their intensity in the screened artwork makes a large difference to the quality of the output scanned image, although the output device should be borne in mind. The two



SHOPPING FOR SCANNERS – THE AMIGA OPTIONS

Assuming you have not invested in a PC Bridge-board, which gives access to the wide world of scanners that can be hung off the back of an IBM PC or compatible, there is a remarkable range of scanning devices tailored for connection to the Amiga.

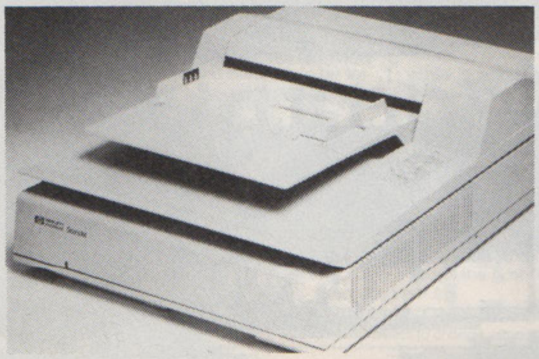
There's no shortage of choice available – scanners exist that will fulfil the needs of the high-end professional publisher looking to do full colour separation work, while inexpensive 'fun' units are available for the dabbler, the artist, or the techno-junkie who just wants another peripheral to connect to the computer and have fun with.

In future issues, this column will review the hardware and software available for scanning images on the Amiga. The techniques for using scanning equipment creatively will also be covered. Meanwhile, here's an overview of the Amiga scanner market.

ProScan Preview

Canadian Amiga specialists Gold Disk have launched the ProScan-IX12 on the other side of the Atlantic, but at present have no firm plans to introduce it to the UK market. Essentially a bundle of software, interface and the Canon IX12 monochrome sheet-fed scanner, ProScan can save scans as black and white images in IFF format at 75, 150, 200 or 300 dots per inch. Photographs can be scanned in and halftoned in software which emulates 32 levels of grey, from what is apparently a 16 grey-scale scanner. Graphics may be precoded for automatic scaling within Professional Page.

In America, the interface, software and Canon scanner bundle sells for $1,095. Dial 0101 416 828 0913 if you simply can't wait for the package to arrive on these shores or the review to appear on these pages...



The Scanjet from Hewlett-Packard

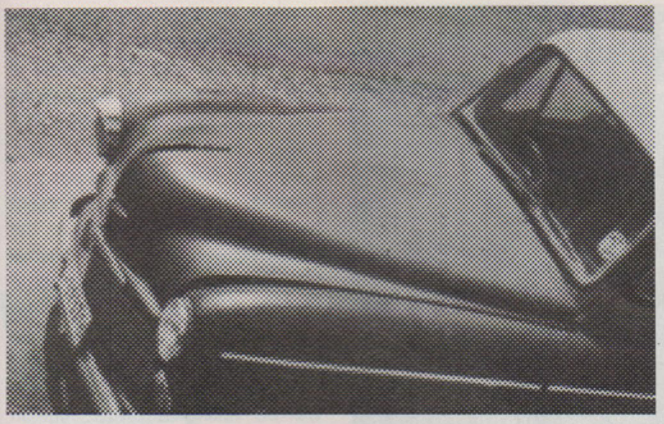
Hewlett Packard Compatibility

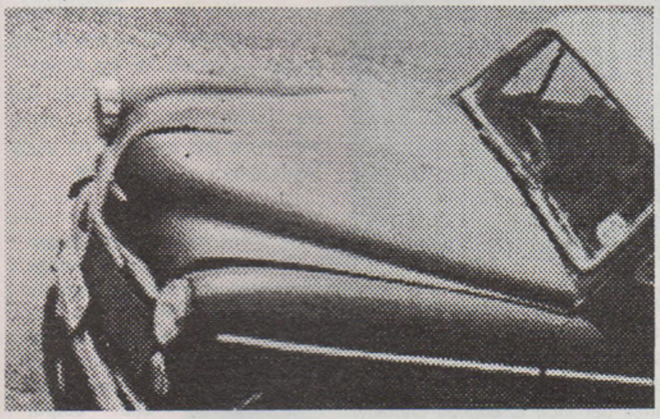
Readers who just happen to have a HP Scanjet or HP Scanjet Plus in the back room gathering dust for want of PC or Macintosh to connect it to might like to give Alan Potter of AT Computer Products a ring. He's the man who is dealing with American Inset Systems' interface to the HP Scanjet flatbed scanners. According to his assistant, the software and interface cost a little under £125, and providing you have got an Amiga 500 or 2000, expect to get up to 16 grey scales in images that can be previewed, cropped, manipulated or dithered in four patterns then saved to IFF, EPS, PCL or FAX files. Further details on 0483 722837.

SunRize Industries

Perhaps the most cunning device of them all for the Amiga is the IMG Scan which sells in the States for $149.99, which is likely to translate to around £120 according to the people at

? £120





pictures above top show the reduced range of greys that results from using a larger dot size (on the right), but the pictures above bottom demonstrate how the benefits are lost on a lower-quality laserprint.



Far Left: a printed continuous tone illustrates all the problems of quality loss involved.

Mid Left: the ameliorating effect of the halftone is shown when the scan is printed this way.

Left: with a close-up focus, the 'dotted' effect of the half-tone screened scan is visible.

with traditional photography provides higher resolution for a smaller outlay.

Using Scans

Whether images are to be scanned in full colour or in black and white is the next breakpoint. Colour scanners are considerably more expensive than devices that deal only with tones of grey.

Eight bit scanners, which can discriminate between 256 levels of grey are in turn more expensive than simplistic devices than can manage only a few levels of grey, or just black and white. The potential quality of a scanned image is also affected by the resolution of the scanning device, measured in dots per inch.

After giving consideration to the colour/monochrome question, decide what it is that you intend to do with a scanned image once it is in the computer.

Optically Recognising Characters

If you want to scan in pages of text and then use optical character recognition (OCR) software to convert the image into an ASCII file, thereby avoiding tedious keyboarding, then don't expect too much in terms of accuracy, forget completely about scanning in anything but the cleanest typewritten or printed text, and don't waste money on a colour scanner. As a reasonable alternative to Amiga OCR, forget about buying a scanner and teach yourself (or someone close to you) to type.

Pretty Pictures On The Page

If you want to scan in continuous tone images (contones), then work out what you're going to use the scans for – they might be combined with text in a DTP document and either output as a part of the final page, or imported as positional visuals only, used to give an impression of the appearance of the final document but replaced by photographically-produced black and white halftones or full-colour separation sets before the page goes to be printed. The quality of the work you need to produce should be the governing factor in selecting a scanner: most expensive is not necessarily the best or the most practical.

If your scans are going to form part of finished pages, then bear in mind the type of output device that the pages are going to be produced on before splashing out on the most powerful equipment available.

While a scanner may be able to capture images at a resolution of 400, 600 or even 800 dots per inch, and even if it can differentiate between 256 different levels of grey or between millions of different colours, nearly all the extra power of the scanner will be wasted if the final page is produced on a dot matrix or 300 dots per inch laser printer, particularly if you are dealing with contones rather than line art.

And the size of the files your high-end beast will start feeding into the Amiga will rapidly get out of control: a black and white photograph measuring 2cms square, scanned at 200 dots per inch resolution by a device that can differentiate between 256 levels of grey can take up as much as half a megabyte of memory or disk space. An A4 photograph scanned in the same way could well look for over 3.5 Mb to ▶

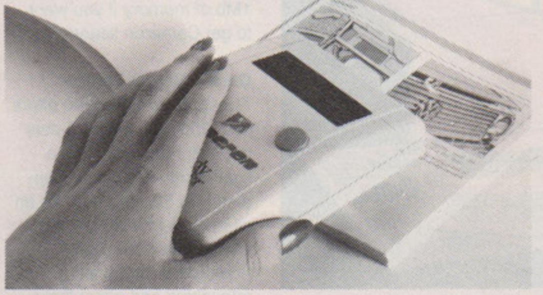
Amiga Centre Scotland who are currently setting up an import deal.

Rather like the ThunderScan for the Macintosh and other budget devices available for some 8-bit machines, IMG Scan sits on the print head transport mechanism of your dot-matrix printer and uses the mechanics of your printer to scan in artwork that is advanced past the moving scan head by the paper roller.

Don't be put off by the apparent crudity of this approach, and don't let the low price deter you, either. Credible results can be achieved in up to 256 levels of grey with a resolution of up to 300 dots per inch. Files may be saved in IFF or RAW format. As we went to press details of UK availability could not be divined from the Texans behind SunRize... Watch these pages for a firm update or try calling them on 0101 409 846 1311, or Amiga Centre Scotland on 031 557 4242.

Cameron Goes For Colour

Cameron's Handy scanner is available in two mono versions – the budget 'Type 2', with a fixed 200 dots per inch resolution and 64mm scan width offers black and white scans only – no real or dithered grey tones on offer, so it's best for text or line art but good results can still be achieved for around £230. Moving up the Cameron range a tad, the Type 10 offers three scan resolutions – 200, 300 and 400 dots per inch – a wider possible scan width (105mm) and can emulate sixteen grey levels by applying one of three dither effects to scanned images as well. It can also produce straight black and white scans. £299 secures.



Inmac's Handy Scanner

For those with larger scans in mind, Cameron's Personal A4 Scanner can emulate four levels of grey by applying its dither routines, scanning in a full 210x297 mono image area at 200 dots per inch, but don't expect too much change from £700. Like its hand-held monochrome siblings, the power of the Personal Scanner is can be beefed up with three pieces of software for the Amiga: Handy Reader; Handy Painter and Handy Scan Base. Handy Reader is an Optical Character Recognition package that can 'learn' character sets and produce ASCII files from scanned text; Handy Painter is an art/retouching package that allows scanned images to be manipulated, retouched and embellished before they are saved as TIFF files, while the soon-to-be-released Handy Scan Base is a database package that allows graphics to be incorporated with text in records, and is due to feature a full report generator along with dBase compatibility.

Handy Painter, and Handy Reader are currently free in Cameron boxes, and

call home, while you'll probably need over 60Mb to stash that A4 photograph if it's scanned same-size in 256 levels of grey at 800 dots per inch.

It gets even more mind-boggling if you are dealing with full colour scans of contones that you intend to separate into Cyan, Magenta, Yellow and Black film for printing in colour. Invest in an accelerator board, lots of RAM and a hard disk, and remember to make sure that the software that drives the scanner can use space on the hard disk as virtual memory.

If you want to achieve professional results, producing mono halftones or full colour contone separations onto the page using your Amiga and a scanner, you had better be serious, have serious work to do and serious money to spend. Alternatively consider using scans as positional visuals only, in which case a cheap and cheerful device will serve you well.

ENGINES UNDER THE BONNET - BADGE ENGINEERING

It is not always terribly clear exactly what it is you are buying with a scanner – one manufacturer's scanning engine can be offered for sale in many guises by other scanner makers. The same basic engine may either installed in a different casing and be bundled with different software, or might appear in the same box with a different name on the badge.

This is by no means a 'con' – just standard practice in the computer peripherals world where OEMs (original equipment manufacturers) assemble products from component units provided by large, specialist manufacturers. Different software packages can affect the apparent performance of such 'badged' engines, but the basic physical capabilities of the scanning unit cannot be improved. The price, however, can vary significantly and may reflect the OEM's investment in driving software – or desire for profit...

For instance, at one time or another, Silver Reed's 200 dots per inch engine (SP11) could be bought from Datel, Cameron, Bureaucare and HB Marketing in slightly different packages.

The golden rule has to be: decide what you want in terms of performance then go shopping for price. Check out what incentives or bundled software are on offer – a scanner that is apparently more expensive may come with all the software you need, while another scanner, or the same unit sold by another supplier may involve you in extra software expense.

Printing Greys On A Black And White Printer

Less demanding DTP work involving contones, perhaps to be output on a dot matrix or laser printer, doesn't call for an expensive scanner that offers 256 grey levels. In order to simulate the effect of many levels of grey in output produced on a device that can only print in black and white, the image has to be 'halftoned' – or broken up into patterns of different-sized dots – before it is printed. In this way, black ink can be placed on the page in such as way as to fool the eye to seeing grey tones.

Using photographic methods, the contone is re-photographed through a screen to produce a halftone, which is made up of from dots which can be of infinitely variable size. The screen ruling governs the number of halftone dots that make up an area of the halftoned image. If a very fine screen is used, say of 130 lines per inch, a sharply-defined image that deceives the eye into seeing many shades of grey will be produced. Conversely, a coarse screen will produce a halftone that is less well-defined and apparently contains fewer shades of grey.

In a halftone produced digitally and output on a printer that has a print resolution of less than 2000 dots per inch, the finer the halftone screen, the fewer the levels of grey that appear in the printed halftone. A 300 dots per inch laser printer can only emulate 4 levels of grey in a halftone screened at 150 lines per inch, and if a very coarse screen of 50 lines per inch is applied digitally, the same laser printer can only produce a halftone that appears to contain 36 levels of grey.

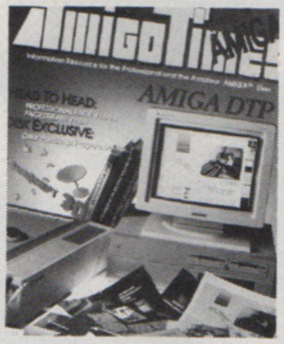
Line Art

Scanners really come into their own when you're dealing with line art – material that is composed of black and white and no greys. Scan file sizes are much more manageable than those produced from contones, and while higher resolution scanners tend to produce better results, offering smoother edges to curves, line art can be input very successfully on even the most basic scanning devices, especially if you're prepared to titivate the results with a bit of pixel editing.

Paste up can be avoided if you scan in logos or illustrations and output them as part of a DTP page, and even the most artistically illiterate can scan in a drawing, import it into a paint package and use the scan as the base for an embellished illustration. With a little creativity, some very neat effects can be generated from a scan produced on a basic hand-held device.

Next issue, the DTP column will be taking a break, but in two month's time it will be back with a head-to-head review of two budget scanners for the Amiga – Datel's hand-held Geniscan and the SunRize IMG Scan – along with some tips and hints for using them to best advantage. ■

As mentioned below, *Amigo Times* is a Canadian Amiga publication produced entirely on Amiga DTP systems and making considerable use of Sharp professional scanning equipment, plus various image manipulation and output devices, provided by UK firm ASDG. The full story behind the production of Amigo Times is scheduled for a future issue of *Amiga Format*.





The JX-300 A4 Colour scanner from Sharp Electronics

information handlers will no doubt be happy to learn that Handy Scan Base will soon be included as a freebie.

For those in search of colour images, Cameron offer the Type 6 Handy Scanner, a 90 dots per inch unit with a 64mm scan width that is capable of recognising 4,096 colours. Files created with the Type 6 colour unit can be titivated in colour in Handy Painter, or incorporated into Handy Scan Base, which allows for colour optimisation and palette adjustment. £575 is the cost of the Cameron colour unit, and Silica Shop or Amiga Centre Scotland are the people to talk to. Make sure you have 1Mb of memory if you want to get Cameron scanning...

Datel's Digital Device

The Geniscan GS4500 offers 100, 200, 300 and 400 dots per inch resolution with a scan width of 105mm. Bundled with Photon Paint for an all-in price of £169.99, the unit arrives with its own ScanEdit software for retouching and offers three dither settings for capturing continuous tone images as well as a line art or text mode. Datel can supply further details on 0782 744707, or wait for our review in the issue after next. Those of you who have spotted Datel's flatbed scanner in the advertisements may like to know that it has been temporarily withdrawn – there isn't a problem with the hardware or software, it's just that the instructions are not in English!

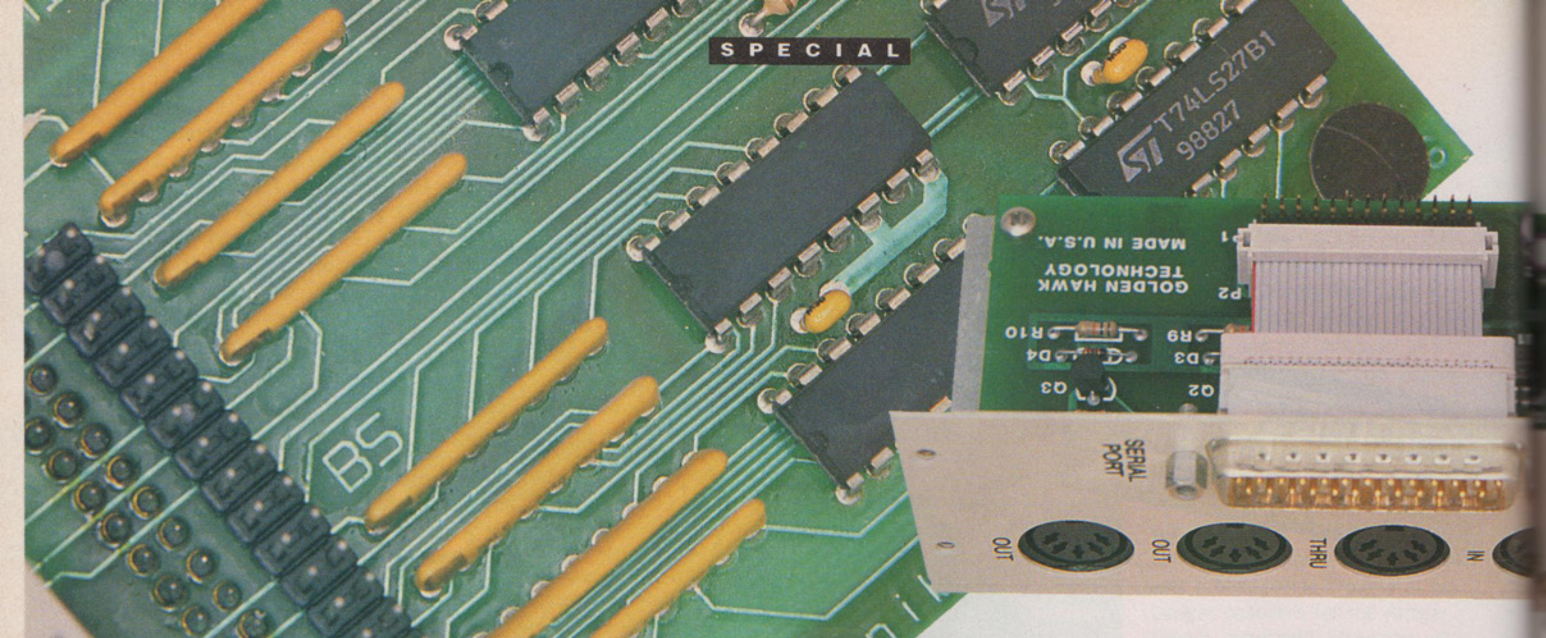
Going For Full Colour

Perhaps the most competent full-colour Amiga system currently available in the UK is offered by ASDG. Based on the Professional ScanLab software and board that works with three Sharp scanners, it is the system used to produce Canadian magazine Amigo Times – one of the few full-colour magazines in the world produced entirely on an Amiga DTP front-end.

Sharp's JX100 hand-held colour scanner can be used with its own software in conjunction with the Amiga to scan in colour images up to 100mm x 160 mm at a resolution equivalent to 200 dots per inch, although 400 dots per inch input is theoretically possible. You pay around £700, place the JX100 on an image and leave it alone to do the scanning rather than drag it around the desktop as is the case with other 'hand scanners'.

For higher end work, the Sharp A4 flatbed scanner, the JX300, offers colour or 256 grey level scans of A4 images and is bundled with Professional Scan Lab by ASDG for around £3000. Its bigger brother, the JX450, forms part of what is possibly the ultimate Amiga colour scanning system – capable of scanning A3 images in 1.6 million colours or 256 levels of grey it is offered by ASDG complete with Professional ScanLab for £7500.


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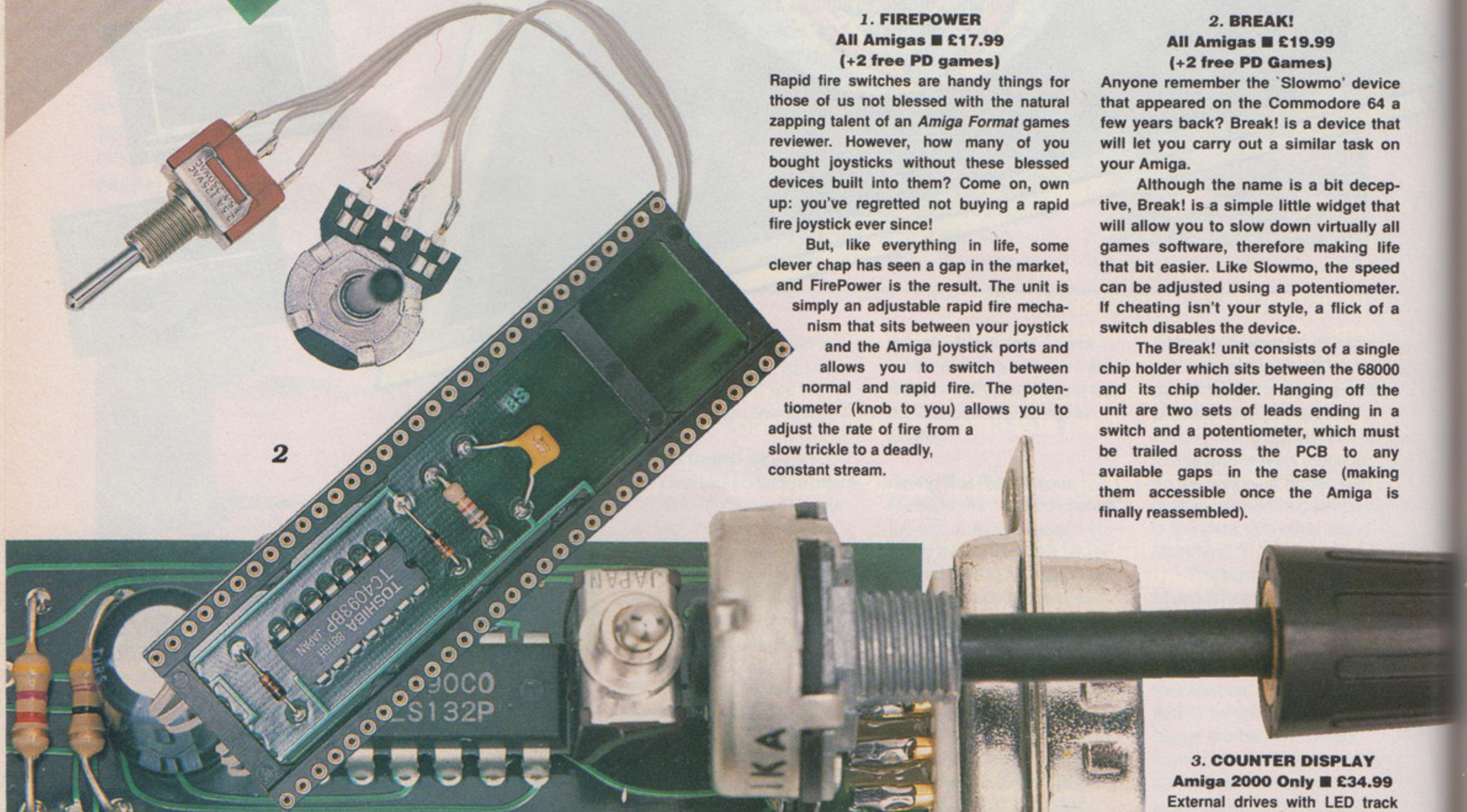


Stuck for gift ideas for the Amiga in your life? **JASON HOLBORN** takes a look at a range of budget priced widgets.



3

STOCKING FILLERS!



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1. FIREPOWER
All Amigas ■ £17.99
(+2 free PD games)

Rapid fire switches are handy things for those of us not blessed with the natural zapping talent of an *Amiga Format* games reviewer. However, how many of you bought joysticks without these blessed devices built into them? Come on, own up: you've regretted not buying a rapid fire joystick ever since!

But, like everything in life, some clever chap has seen a gap in the market, and FirePower is the result. The unit is simply an adjustable rapid fire mechanism that sits between your joystick and the Amiga joystick ports and allows you to switch between normal and rapid fire. The potentiometer (knob to you) allows you to adjust the rate of fire from a slow trickle to a deadly, constant stream.

2. BREAK!
All Amigas ■ £19.99
(+2 free PD Games)

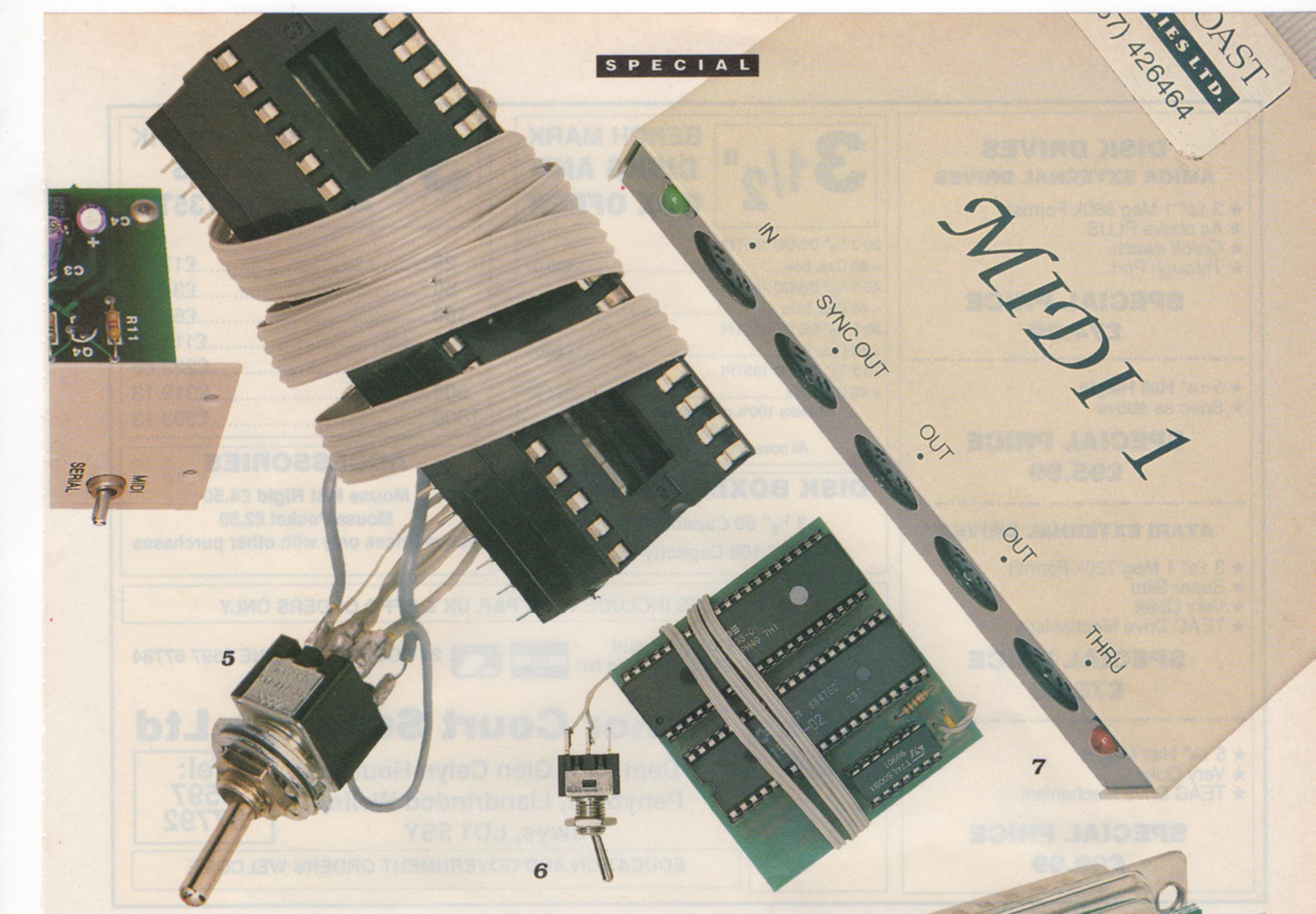
Anyone remember the `Slowmo' device that appeared on the Commodore 64 a few years back? Break! is a device that will let you carry out a similar task on your Amiga.

Although the name is a bit deceptive, Break! is a simple little widget that will allow you to slow down virtually all games software, therefore making life that bit easier. Like Slowmo, the speed can be adjusted using a potentiometer. If cheating isn't your style, a flick of a switch disables the device.

The Break! unit consists of a single chip holder which sits between the 68000 and its chip holder. Hanging off the unit are two sets of leads ending in a switch and a potentiometer, which must be trailed across the PCB to any available gaps in the case (making them accessible once the Amiga is finally reassembled).

3. COUNTER DISPLAY
Amiga 2000 Only ■ £34.99

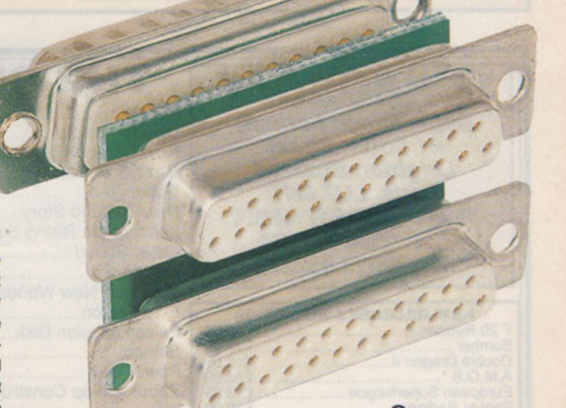
External drives with LED track displays are all the rage at the moment, and so for trendy 2000 owners, Counter Display could be the ideal gift. This particular display device consists of a replacement for



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the 2000's front panel (the one that holds the power and hard drive activity LEDs) which contains a row of four LEDS to display the track position for both the Amiga 2000 internal drives (the second two LEDs are unused if you only have a single drive). The heart of the device is a small(ish) plug-in card that sits between the 2000 Printed Circuit Board and the disk drive ribbon cable.

A word of warning for those of you with internal MIDI interfaces. Most internal MIDI interfaces connect to the internal serial connector: however, this connector is also used by the Track Display card to draw its power. To be able to use both, you may have to make alterations (such as fitting a switch) so that both can share the connector.

4. MIDI GOLD

Amiga 2000 Only ■ £59.99

The Amiga 2000 was one of the few good ideas that the designers at Commodore came up with. Instead of having all add-ons hanging off the machine, like the other Amiga models, everything could be contained within one (fairly) portable box. Never again would you have to wade through masses of connecting leads every time you ventured around the back of your Amiga: everything was neatly out of sight inside the machine.

For all you space-conscious 2000 owners, MIDI Gold is an internal MIDI interface that provides one MIDI IN, one MIDI THRU and two MIDI OUT connections. The unit includes a serial port pass-thru connector (the 2000's connector is switched out) and a MIDI disable switch to allow you to use serial printers and modems.

5. BOOT SELECTOR

All Amigas ■ £9.99

Unless you have an autobooting hard-drive and Kickstart 1.3, the Amiga internal drive is an all-important part of the Amiga system. Without it, your Amiga will be about as much use as the Hardware Reference Manual is to Andy 'Zap 'em' Smith. Put simply, booting a disk from drive DF0: is your only way of getting the Amiga up and running. But what happens if the internal drive gives up on life? You need Boot Selector of course!

Boot Selector, as the name implies, allows you to change the system boot-up drive to either Drive Zero (the default) or Drive One at the flick of a switch (while the machine is turned off, of course!) The unit is just a single chip holder with a switch attached via a connecting cable (allowing you to control the selector once the case is closed up again).

Like the Change Kickstart board, you'll have to open up your Amiga to actually install the Boot Selector. The board sits between the Even CIA chip and its holder, so making the installation is a fairly simple process.

6. CHANGE KICKSTART

Amiga 500/2000 ■ £29.99

(£55 with either the 1.2 or 1.3 ROM)

With the release of Kickstart 1.3, quite a few commercial games suddenly stopped working. Although most have now been re-released to work with all models of Amiga, a few still remain out of reach of those of us with newer Amigas.

So how do you protect your software investment? You could replace the 1.3 Kickstart with the older 1.2 version: but what happens if you also wish to take advantage of 1.3's hard drive boot facility? The answer is simple. You're stuck, matey!

However, to the rescue is the Change Kickstart board. The board contains of two separate chip holders that are used to hold both the 1.2 and 1.3 Kickstart chips inside the machine at the same time. Swapping between the two is simply a matter of flicking the Change Kickstart switch (while the machine is turned off!)

Installing the new Change Kickstart board is simplicity itself, although it does involve opening up your Amiga (which will invalidate your warranty on the Amiga 500). All you have to do is to remove the Kickstart chip that's presently installed and replace with the Change Kickstart Board. The old Kickstart chip must then be moved onto the board together with the additional alternative Kickstart chip.

The changes made in the operating system between versions 1.2 and 1.3 of Kickstart are miniscule compared to the difference between 1.3 and 1.4. When 1.4 does finally arrive, be prepared to see software failing all around you as the new O/S breaks all those badly-written games. When this does happen, Change Kickstart will be the one sure way of protecting your investment.

7. CMI MIDI 1

All Amigas ■ £29.99 ■ Third Coast Technologies (0257 426464)

George Thomson don't produce a version of their A2000 MIDI Gold interface, but for those of us who can't afford the luxury of an Amiga 2000, Third Coast Technologies' CMI MIDI 1 unit is the best there is.

The unit features one MIDI IN, one SYNC OUT (for connecting to older drum machines) and three MIDI OUTs. For sensing MIDI activity, Third Coast's interface features two coloured LEDs which show the stream of MIDI data in and out of the unit. For surviving even the most hectic of gigs, the unit is made completely from robust metal. If you're after an A500 MIDI interface, the Third Coast unit is not only one of the cheapest available, but also one of the best-equiped.

8. TWIN-IT

All Amigas ■ £11.99

So you've bought two disk drives, but you've only got one port to plug them into. The Commodore manual says to daisy chain them, but neither of the drives includes a pass-thru connector. What are you going to do? You should treat yourself to Twin-It, of course! ■

SUPPLIERS

All Items (except the External MIDI Interface) Are Available From George Thomson Services on 077082 234. Third Coast Technologies can be contacted on 0257 424442.

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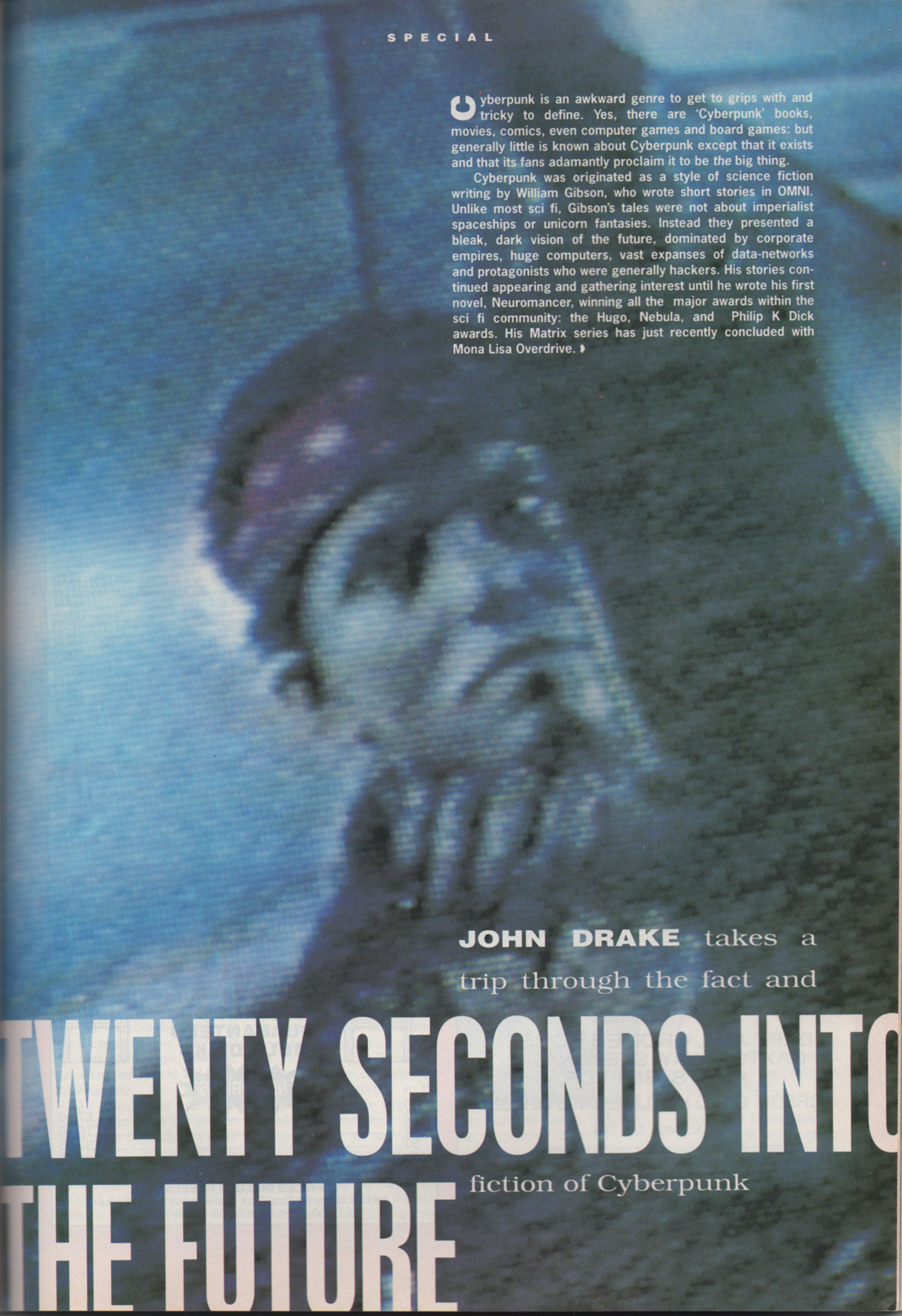
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JOHN DRAKE takes a trip through the fact and fiction of Cyberpunk

Cyberpunk is an awkward genre to get to grips with and tricky to define. Yes, there are 'Cyberpunk' books, movies, comics, even computer games and board games: but generally little is known about Cyberpunk except that it exists and that its fans adamantly proclaim it to be *the* big thing.

Cyberpunk was originated as a style of science fiction writing by William Gibson, who wrote short stories in OMNI. Unlike most sci fi, Gibson's tales were not about imperialist spaceships or unicorn fantasies. Instead they presented a bleak, dark vision of the future, dominated by corporate empires, huge computers, vast expanses of data-networks and protagonists who were generally hackers. His stories continued appearing and gathering interest until he wrote his first novel, Neuromancer, winning all the major awards within the sci fi community: the Hugo, Nebula, and Philip K Dick awards. His Matrix series has just recently concluded with Mona Lisa Overdrive. ▸

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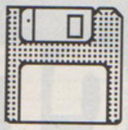
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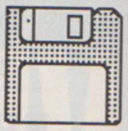
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■ **Los Angeles, 2019: the very, very Cyberpunk setting for Bladerunner. The street language is a bizarre mixture, the advertising is Japanese, the Corporates dominate.** (© Warner Brothers, 1982). **Below and previous page: high technology and big weapons in Aliens** (© 20th Century Fox, 1986)

People jumped on the bandwagon, writing books and short stories with a similar feel and characterisation, set in a nightmare world of the future. It wasn't long before the media picked up on the idea and started churning out articles and theses on the subject, most notably in the States where the Mississippi Literary review dedicated an entire issue to Cyberpunk.

But there was also one group of people who read the Gibson books and not only liked the fiction, but could also see how the Cyberpunk vision of the future came about. For these people, the Cyberpunk hacker ethic was an extension of their own lifestyle. It was also the logical conclusion of the current state of the world combined with the technical progress that the near future would bring.

Creating the Net

We are rapidly moving towards an age of post-industrialisation in which computers and robots will do most of the work, while we humans will exist just to add chaos to the system.

A distinguishing mark of Cyberpunk novels is the function of the Net or Cyberspace, a worldwide computer network which the Cyberpunk connects into by jacking electrodes directly into his brain. All commerce and media is based in the Net. While many people say this is an unrealistic model even of a completely fictional system, and that this kind of network could never exist in the real world, it is obvious that it already does: in the form of the Stock Exchange.

The figures moving back and forth around the globe generally deal not with a physical reality, but a consensual hallucination over market values linked to nothing tangible or stable. Imagine: millions of pounds are rushed this way and that on an electronic figment of the imagination.

But to understand the way the current real-world situation compares to a global network encompassing all trade, industry and entertainment, populated by Cyberspace cowboys, you have to go back to the invention of the first computer system and the hackers that grew up with it...

Did you say 'Telephones'?

Yes, telephones. You may not think the telephone is a computer, but in many ways the humble phone was the first analogue computer with the largest connections in the world. Its origins were simple and humble: a mouthpiece and a receiver joined by two parallel wires strung between Alexander Graham Bell and his assistant. 'Hello?' It worked, and the modern-day equivalent is now for the most part digital and will usually get you further than just across the room.

In the mid Sixties, a group of people started to learn more about the telephone than they were supposed to know. They started by looking in Bell technical manuals to find out how the phone system really worked. One of the first prizes was a set of frequencies, musical notes that, when played back into the phone in a certain way, liberated the line from the operators.

By using these musical notes they could direct themselves anywhere in the phone system, popping out at any telephone in the US with the interesting side effect of a free call in the process. More sophistication was developed by the early researchers and



they found the coding to bridge the international barriers. They could also find themselves in different companies' phone systems, as well as the US military phone network.

A popular demonstration carried out by these 'Phone Phreaks' was to place a call in a room with two lines and two telephones. Starting on one phone the phreak would tape in the musical notes, repeating the music for a few minutes, the audience watching spellbound as his fingers flashed over the blue box's array of keys. Minutes later the other phone would ring and he'd ask someone to pick it up. They would hear a faint and distant voice: the voice of the phreak, which had just circumnavigated the earth by telephone. A couple of the people who would give these demos were called Steve Jobs and Steve Wozniak.

By the early seventies more people were into phone phreaking, generally learning Ma Bell's system better than any one person in Bell itself. Then an article was written in Esquire about the pursuit, a well written piece, chronicling the activities of these technological masters. Busts followed and it became quite illicit. One of the legends in the field, John Drapper, was put into prison for his activities (where he wrote a wordprocessing package for the IBM PC).

Enter the Computer

At the same time another revolution of sorts was happening: the personal computer, as created by those two former phone phreaks, Steve Jobs and Steve Wozniak. After the initial introduction of the personal computer a new device

▸ could be added that allowed the personal computers to connect up to other, bigger computers. Modem communications caught on: a special modem rumoured to be designed by John Drapper and called the Apple Cat was a breakthrough for Apple users.

Not only did it do a form of 1200 baud, which was unheard of at the time, but it also had a very unique feature of programmable two-channel tone generation (hey, this was the late Seventies) which was what you really needed to generate tones to trick Ma Bell into thinking that you were one of her operators. Great, so the rush was back on: shared information on Bulletin Boards (BBs) about computers, communications, software cracking and a revised interest in phone phreaking. No secrets anywhere, and the birth of the hacker ethic.

Then a movie came out that gave a glimpse of what the the computer underground was like. Called Wargames, it gave a dramatic view of a hacker breaking into a computer to start World War Three by accident. Pretty sensational stuff. Kids all wanted modems for Christmas, so they could all do the same thing. Since the hacker ethic had freedom of information at its core, material relating to hacking and phone phreaking was generally available on various boards. Havoc ensued, with hackers running amok through as many systems as they could: The authorities were slow to react, and when they did, they generally acted in fascistic and draconian ways.

The Sting

By now the Eighties were half-way over and hackers were getting more organised. Publications appeared to keep hackers update, but they always lagged behind the live, on-line BBs, the main meeting places for hackers to trade information. Bell and large companies started to take notice of illegal entries into their computers, and began prosecuting.

Earlier morning raids were commonplace and intimidation by the secret service was a standard tool. After police arrived at the crack of dawn and produced a search warrant to the offender's loving mother, the hacker's room would be cleared of anything that looked as if it was remotely connected to the use of computers. Diskette boxs, magazines, audio tapes, anything on computer paper and the CPU were all loaded into a van and held until the family settled the damages against the phone or computer company.



■ **The Running Man: the big gameshow hunters can be beaten with a smart piece of hacking.** (© 1987 Taft Entertainment Pictures/Keith Barish Productions).

Sting BBs became all the rage and entire computer systems were set up and run for the sole purpose of passing illicit information back and forth. By this time hackers were beginning to wise up to the reality of their situation, seeing their friends being busted right, left and centre.

At the same time, Gibson's short stories and books were gathering interest in the sci-fi community and thus in the computer community. People started getting heavily into the characters developed in the books. Gone were the days of long-haired, greasy late night hacking, piles of coke and old pizza heaped next to the keyboard: being replaced by streetwise Cyberpunks. BBs were set up to pass information, keep on the edge of new technology, the values and generally get into character. If you weren't operating in realtime online then you would read the magazines Reality Hackers, Mondo 2000, WORM, 2600 or Science Fiction Eye to keep up with what was going on. The outlaw hacker has evolved from his predecessor: he has a potentially radical philosophy, a vision of the information age that beckons and rational anarchist politics. The new hacker is a Cyberpunk.

'The ethic must be spread' says Michael Synergy, writer for Mondo 2000, 'so that the new hacker will learn to judge the fine line between executing a truly elegant hack and being wanted by the FBI, NSA and the secret service.' The Mondo 2000 credo tells more about the new hacker: 'Cyberpunks are the gatekeepers and guardians of individual liberties. They are 20,000 strong and have access to everything. Big Brother knows this and Big Brother wants them quashed.'

Popular Cyberpunk

Movies and video especially are the best places to tap in to the Cyberpunk view of the world. William Gibson was reported as walking out of Blade Runner (based on 'Do Androids Dream of Electric Sheep?' a book by Philip K Dick) because it translated his vision of the future to celluloid. Another great window into Cyberpunk is the American version of Max Headroom which picked up from the pilot film and carried it a further twenty minutes into the future.

Other movies that have the Cyberpunk view include Tron, Aliens, The Running Man, Robo Cop, Leviathan, Gun Head, Akira (the new film of the Japanese comic-book) and The Terminator, with more on the way in the forseeable future. Gibson and a group of Cyberpunk writers are currently working on a movie called Macro Chip which is set in the same future. He has also written the screenplay for Aliens III, which will soon be in production.

While the Cyberpunk movement is growing, the media has not failed to take notice. Most recently the 2nd issue of 20/20 made a report from the US about the new hackers called 'Terminal Madness'. People Magazine ran a page on the famed Internet Worm virus featuring cult hacker Robert Morris Jr, declaring he was a Cyberpunk. It's been reported that young hackers have photographs of him taped to their computers for inspiration.

And as for the Amiga? Well, apart from the conversions of various films, there's more than a couple of games with Cyberpunk influence. Since the Electronic Arts adventure version of Neuromancer, several games have appeared with a strong Cyberpunk element: most notably Adrian Stephen's recent Interphase for Mirrorsoft, in which the player enters the Cyberspace of the computer's circuits. And for the future? Well, who can tell... ■

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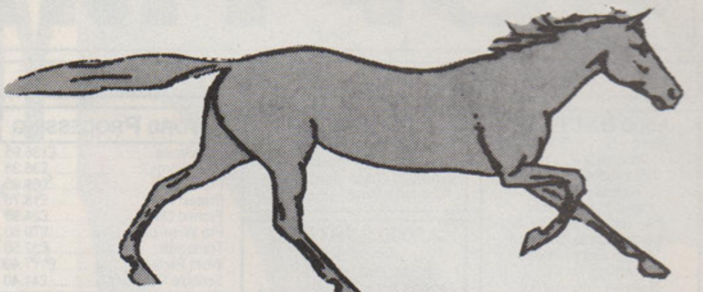
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SONIC BOOM BOY

JASON HOLBORN 'samples' Omega Projects' Sound Trap 3, a budget priced Sound Sampler with a full price specification.

So what can I say about an Amiga sound sampler that hasn't already been said before? It'll digitise sound from most sound sources? Nope, said that. It offers variable sampling rates? No, nothing new there. So what could another Amiga sound sampler possibly offer that isn't already available with countless other units? How about a price tag half that of most of its competitors, but a specification to give even the best a run for their money!

How Big?

Size has traditionally been attributed to power (many say that the only reason that the original IBM PC sold so well was because it looked powerful), but looks certainly are deceptive with Omega Projects' Sound Trap III sampler. To describe it as small would be an understatement. Tiny would be far more applicable!



Omega's unit, like the vast majority of other Amiga samplers, plugs into the parallel port of any Amiga. However, unlike most of the competition, Sound Trap will happily work with all Amiga models, including the A1000. This is achieved by making the Sound Trap hardware reversable – just choose between a male or female connector, depending on your machine model. The spare connector then becomes a parallel port pass-thru connector, therefore allowing you to run a printer without having to unplug the Sound Trap first. Omega certainly get top marks for a well thought-out design!

Sampling Trap

The Sound Trap software comes on a single floppy disk, complete with an adequate manual covering both operation and a description of the sampling basics.

Using the Sound Trap software is simplicity itself. All the sampler operations are controlled by clicking on on-screen icons. Operations include all the standard functions that you'd expect to find: Record, Play, Zoom (in and out), Cut, Copy, Paste etc. Rather strangely, Sound Trap doesn't support pull-down menus at all. The gadgets you see are the functions you get.

Sound is fed into the Sound Trap hardware through a single jack connector. Unlike most of the competition, Sound Trap does not support stereo sampling. However, as many musicians will tell you, stereo sampling is a vastly overrated feature that rarely has a use within real world applications. Sure, it's fun to grab a sound on two separate channels, but stereo sampling instantly cuts the maximum sampling rate in half, which can be a real disadvantage when it's audio quality you're after.

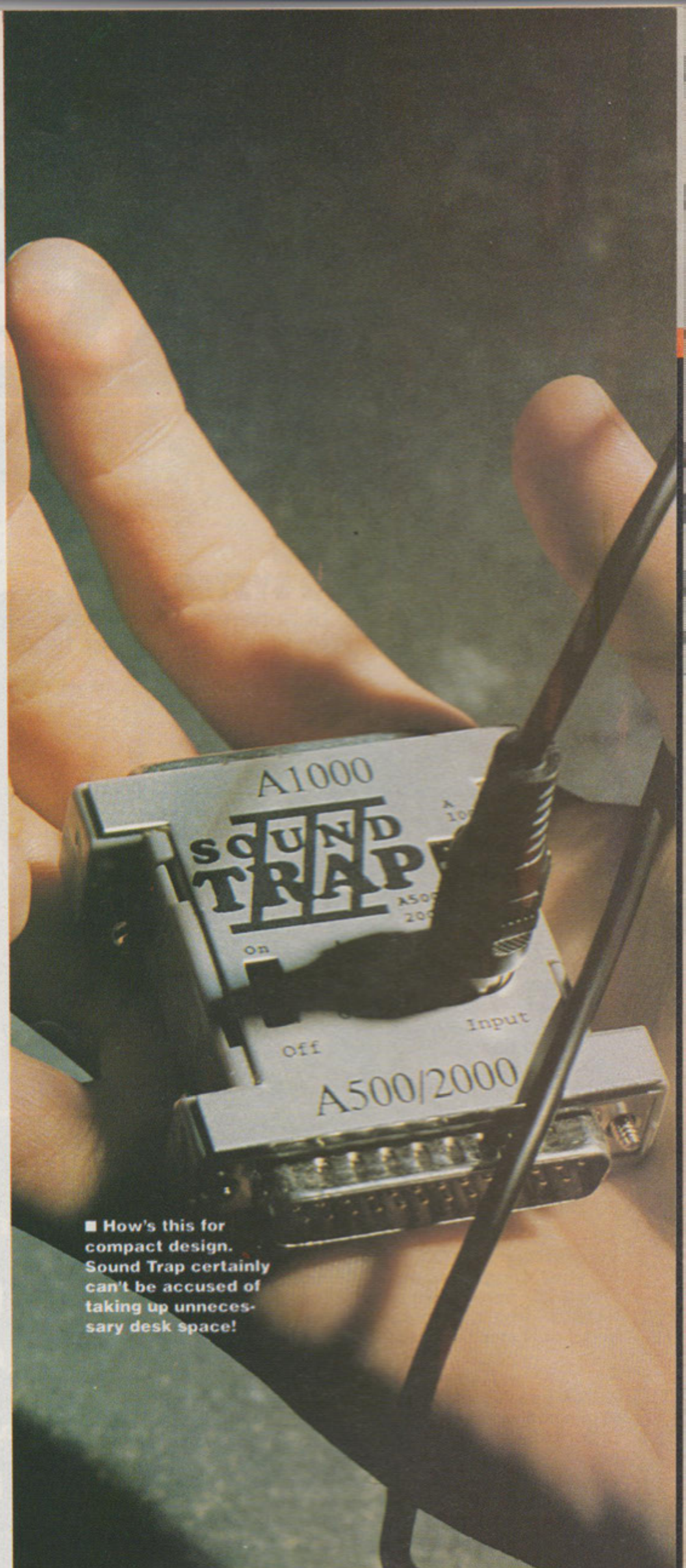
Samples can be grabbed at a variable sampling rate from 6 KHz, right up to a wacking 34KHz. Rather strangely, although the software appears to allow sampling at this impressive rate, the sample is actually grabbed at a far more diminutive 29KHz.

Once you've grabbed your sample, you can carry out all the standard editing functions such as cut, paste and copy by highlighting the area to be effected with the mouse. This is, unfortunately, as far as Sound Trap's software goes – if it's advanced features such as echoes, fades etc, that you're after then you'll feel held back. For those of you wishing to use just about any Amiga sampler seriously, you'd be well advised to instantly rush out and invest in a copy of Aegis' AudioMaster 2 (available from HB Marketing on 0895 444433) which is a software based sampling package designed for use with most samplers (including Sound Trap).

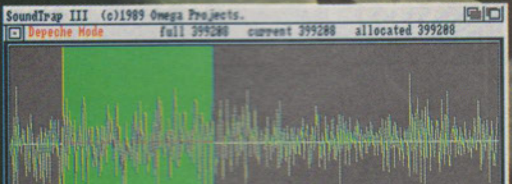
Sound Choice?

Cheap samplers have been available for quite a while now from companies such as Trilogic, but none offer even the kind of sampling quality of Sound Trap. Although there are many much better quality samplers available (FutureSound 500 being about the best there is), the price and well thought out design are the two factors that really make Omega's product shine. At just under £38, there really is nothing to touch Sound Trap III. ■

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■ How's this for compact design. Sound Trap certainly can't be accused of taking up unnecessary desk space!



■ Not quite a Fairlight, but the Sound Trap software works well.

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COMMAND PERFORMANCE

JASON HOLBORN takes a look at *Elan Performer*, a package that puts Amiga graphics and animations at your fingertips.

Desktop Presentation is big business on the Amiga. Whether you just enjoy tinkering with animation and paint packages, or you're a video professional using the Amiga to produce broadcast quality video effects and titles, you're sure to find a package to suit your needs.

Elan Performer is the latest arrival on the scene to be aimed at both the home user and the video professional. The system works in conjunction with existing paint and animation programs to provide a quick and simple method of presenting graphics and animations of different formats.

For animation, *Performer* supports both IFF ANIM and RIFF forms used by packages such as *VideoScape 3D* and *Sculpt Animate* respectively. Irrespective of which paint system you use, *Performer* will happily accept graphics in anything from two to 4096 colours in both normal and overscanned display modes.

Key to Success

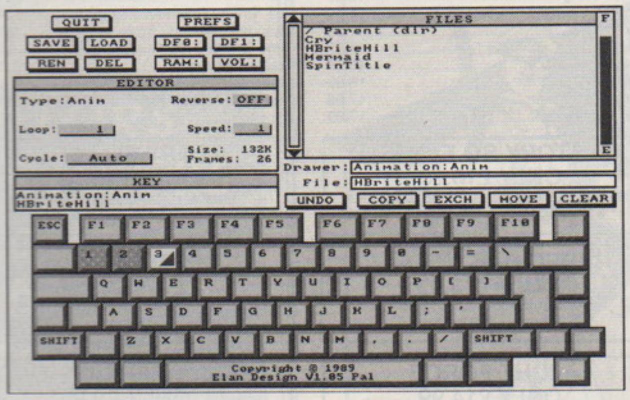
Previous desktop presentation packages have earned themselves the unenviable reputation of being almost unusable because of poor user interfaces. Thankfully, the designers of *Elan Performer* have clearly put a great deal of time and effort into the design of *Performer*'s user interface, making the program a positive joy to use.

Performer's main, and only, work screen consists of a graphic representation of an Amiga keyboard (the Amiga A1000 keyboard, to be precise). Just by clicking on the various gadgets with the mouse, simple presentations can be produced in a matter of seconds.

Building a presentation is simplicity itself. *Performer* works by allowing you to assign any image or animation to keys on the Amiga keyboard. To assign a particular graphic event to a key (an event being either an image or animation), all you have to do is to double-click on the filename of the file to be used from the onscreen file requester, and then click on the key that the event is to be assigned to. Depending on the type of event, *Performer* will then allow you to change particular attributes that dictate how the event is to be displayed.

For pictures, you can dictate how long the image is to be displayed in terms of minutes, seconds and frames, and whether the image's colours are to be cycled. If you load an animation, you can change both the playback speed and the number of times the animation is to be looped (if any).

Once you've set up your presentation, you may either leave it to do its stuff automatically or manually advance to any event by pressing its associated key on the keyboard. Whole sequences can easily be linked, therefore allowing you to build complex presentations running into hundreds of events.



■ ***Elan Performer* employs a completely mouse-driven interface that is both easy to use and powerful.**

So what use is a package such as *Elan Performer* to the average user? The program is suited to a wide number of different applications, but I can see it being particularly useful for building a sequence of credits for the front end of a home video, or even for shop window displays and educational use. The manual details a selection of varying applications ranging from a simple shop window display to a full-blown interactive information system. As always with a program such as this, your imagination and ability to use the program are the key elements.

Conclusion

Elan Performer certainly isn't a do it all, jack of all trades type of package like many of its competitors. For starters, you'll need both paint and animation packages to produce files for *Performer* to work with, so don't buy *Performer* thinking that it's the only package you're going to need.

However, the combination of a package such as *Deluxe Paint 3* (which can be used to produce both artwork and animations) and *Elan Performer* makes for one of the most cost-effective presentation systems available.

For home use, it would have been nice if *Performer* had supported not only graphics but sampled sounds and music as well. This facility would be particular useful as you could easily combine music and sound effects to further enhance your presentations. Oh well, let's hope Elan are listening and will add these capcities to a future release.

Performer's simplicity and easy of use are its greatest assets. If you need to be able to 'knock up' a professional looking presentation quickly and with a minimal amount of hassle, *Elan Performer* could be the package you've been looking for. ■

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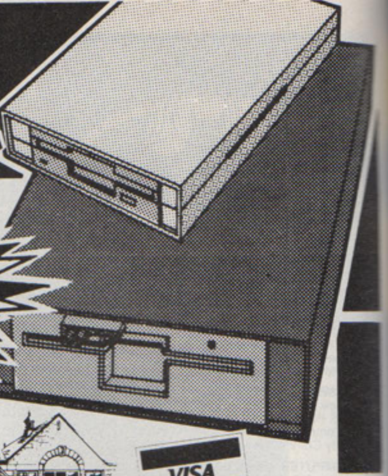
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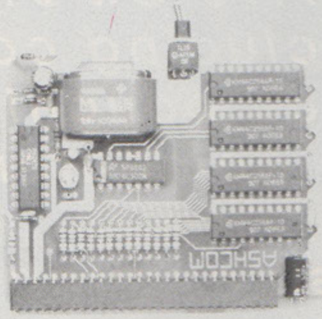
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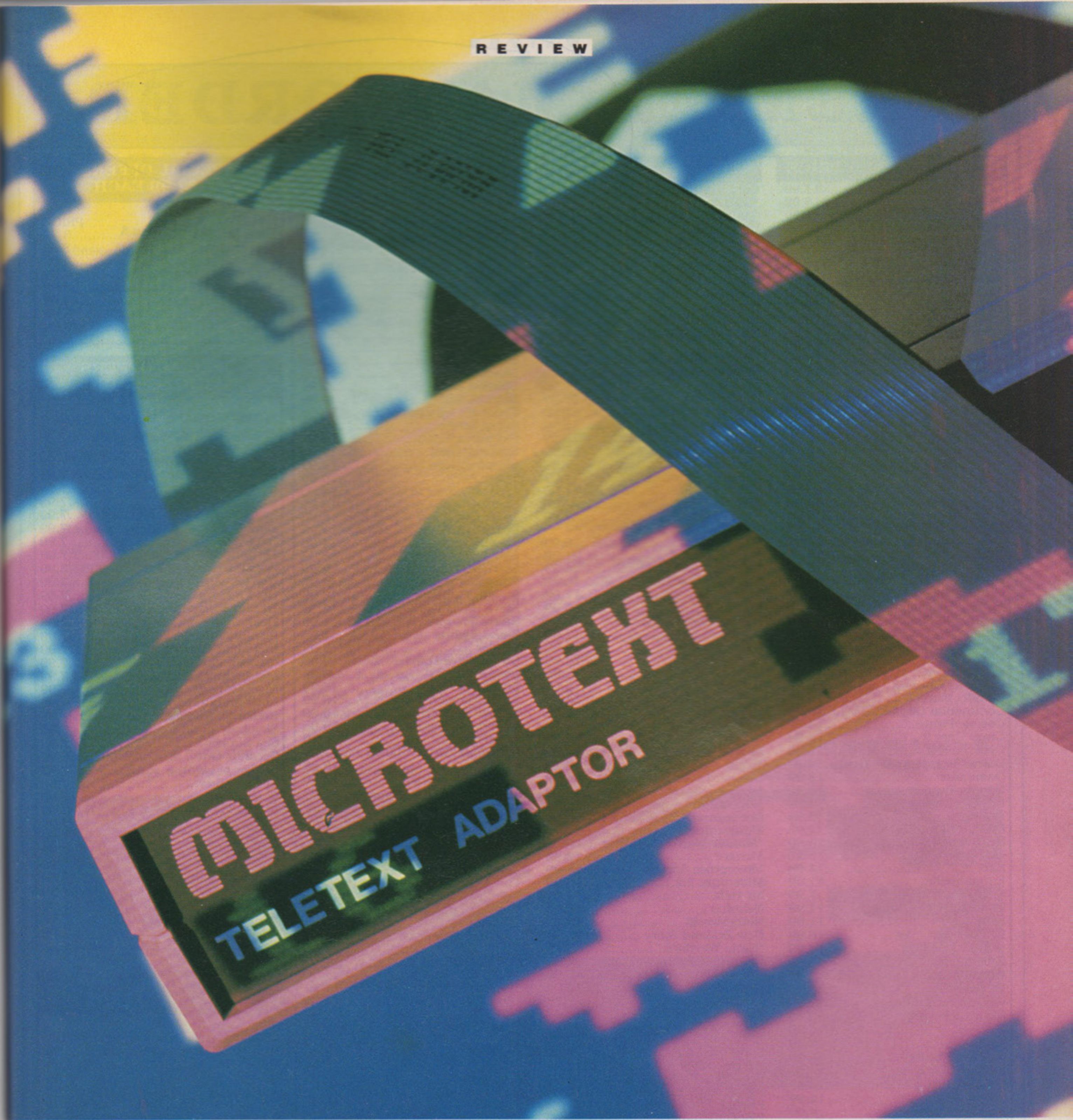


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IMMACULATE TECHNOLOGY

Keeping track of day-to-day happenings on planet Earth is a truly monumental task. JASON HOLBORN makes the task a little simpler.

Information has a great deal to answer for within modern society. Its effective use can make you a million or leave you bankrupt, get you to work on time or leave you stuck in a traffic jam: it can even be the spark that starts a war and then brings eventual peace. Either way, your effectiveness at gathering and using information can be all-important.

Two of the greatest sources of information are the Teletext information systems run by both the BBC (Ceefax) and ITV (Oracle). Whatever your interest, chances are that Teletext systems contain sections (called 'Pages') to cater for your needs. In general, both services contain up-to-the-minute local and international news, in-depth financial coverage, and ➧

➧ even the racing form for the 3.15 at Chepstow. Teletext is transmitted over the airwaves in the same way as television pictures, and is therefore available to anyone with the right equipment.

Aerial View

A basic Amiga won't receive and display Teletext pages without the addition of an adaptor. MicroText's adaptor is a slimline unit that plugs into the parallel port of the Amiga and provides not only access to Teletext services, but also the added benefits of a TV tuner. For MicroText to receive Teletext signals, a standard television aerial must be plugged into the adaptor unit.

Before you can start receiving Teletext, Microtext must be tuned in to the four available Teletext channels. Luckily, this isn't as difficult as it sounds, as the vast majority of the work is carried out for you by the MicroText software: all you have to do is to press the Return key each time a Teletext channel is found. In fact, setting up MicroText is so simple that you don't even have to tell the system which channel it has found: MicroText will automatically recognise each channel itself. Once all four channels are found, the frequency settings are then saved to disk and then referred to every time the software is reloaded in the future.





■ Both the BBC and the ITV Teletext services are accessible.

Page By Page

Using Microtext is simplicity itself. If you've ever used a Teletext-equipped TV, then you can dive straight in and use most of the package's features without ever having to refer to the manual. However, for those of you who haven't used a Teletext system before, each page is identified by a three-digit number. Moving around a Teletext system is just a matter of entering the number for the page you wish to view, and within seconds the required page will be displayed. Page numbers can be entered using either the keyboard, or alternatively, by simply pointing and clicking on the onscreen number when a teletext menu is displayed.

As you continue to use Microtext, the software buffers the last sixteen displayed pages using a FIFO technique (first in, first out). These sixteen pages can then be rapidly flicked through using the 'Review' option, without having to wait for the pages to be re-received by the adaptor.

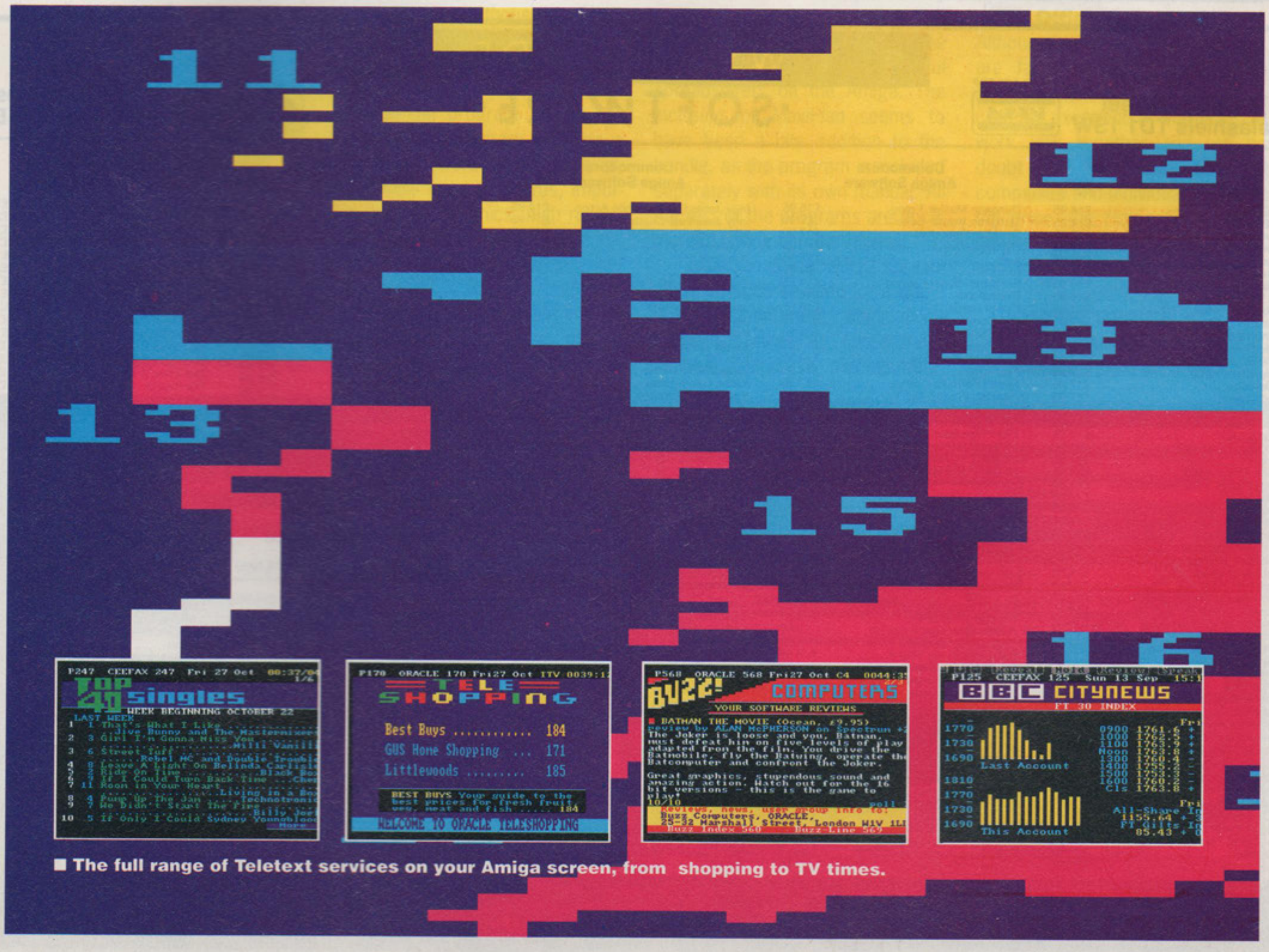
Being able to store Teletext pages is one advantage that a computer-based Teletext has over its TV-based counterpart. Microtext allows pages to be saved either as compact Teletext files, or in standard IFF format for loading into most Amiga paint packages. However, pages saved in Teletext format can only be reloaded using the Microtext software, but their very small file size (960 bytes!) allows over 800 pages be be stored on one disk. Pages can also be printed, either as screendumps (colour and mono) or, for faster results, as straight text using the printer's built-in fonts.

MicroText is also fully programmable. Using the system's 'Auto Run' facility, any sequence of pages can automatically be called up and then either printed, spoken using the Amiga Narrator device or saved out to disk. The practical possibilities for this feature are endless. For example, you could easily get MicroText to automatically print you out a daily TV schedule!

Conclusion

Although £144 may sound like rather a lot to pay for the privilege of being able to access Teletext, the convenience of having up-to-date information at your fingertips, 24 hours a day makes Microtext one of the most useful add-ons could could possibly buy for your Amiga. The software is well designed, powerful and very easy to use and will even happily multi-task from Workbench. To cap it all, you even get a free TV tuner to allow you to watch 'Neighbours' without ever having to leave your Amiga! Overall, MicroText is an essential purchase. ■

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ELECTRONIC OFFICE

So you've bought yourself an Amiga and played the latest games, but isn't it time your Amiga earnt its keep? **JASON HOLBORN** puts his Amiga to work.

Isn't it time you discovered your Amiga's potential as a serious business computer? Like all computers, the Amiga has a natural ability to be a powerful business tool. Whether you want it to manage your financial affairs, produce beautifully-presented letters, or keep track of all your clients, you'll find the Amiga to be more than qualified. All you need is the right software, and you're in business!

Buying serious software (or 'productivity software' as some prefer to call it), such as Databases, Spreadsheets, Word Processors and Desktop Publishers, has traditionally always been an expensive affair. Even on the Amiga, those five basic programs could end up costing you well over £400, practically the same price as the Amiga itself! Could it be possible that you can build a complete Amiga-based home office for less than the price of six games? It is now, matey! Enter the *Home Office Kit*.

The *Home Office Kit* is a collection of five applications programs (spreadsheet, database, DTP package and Word Processor) and two extra disks bursting with IFF clip art and extra fonts. Most were previously sold separately for considerably more than their current asking price. Indeed, just a year ago you would pay £150 for *PageSetter* alone!

Bundling Bonanza!

PageSetter was one of the original desktop publishing programs to arrive on the scene. While the program may look rather long in the tooth when compared to todays DTP offerings, the program is immediately usable and can produce some quite astounding results. Although the basic *PageSetter* program is limited to dot matrix output, the kit also includes *LaserScript*, a Postscript interpreter that adds the power of Postscript to *PageSetter*.

For your word processing needs, the pack includes the highly-regarded *Kind Words 2*, probably one of the best-selling Amiga word processors ever. You've probably read the spec for Kind Words a thousand times before, but for those of you who have been living in Siberia for the last year, here's a quick run down of what the program offers. For starters, the program features a 100,000+ word spell checker, 470,000+ word thesaurus, importation of IFF graphics, high resolution 'SuperFonts' and others.

Although all the programs are fairly simple to use, the friendliest of them all is without doubt *InfoFile* from Softwood, producers of that king of the Amiga word processors, *Pen Pal* (see review in last issue of *AF*). The program is a fairly simple card file-type system that allows you to create databases containing not just text, but IFF graphics and even sampled sounds! To help you get your database up and running, InfoFile includes 10 separate database 'templates'.

The Disc Company certainly can't be accused of bundling naff software, as Oxxi's *MaxiPlan* is one of the most popular and powerful spreadsheets on the Amiga. The inclusion of *MaxiPlan* seems to have been a late addition to the bundle, as the program is included separately with its own manual. All the rest of the programs are documented in one bumper manual.

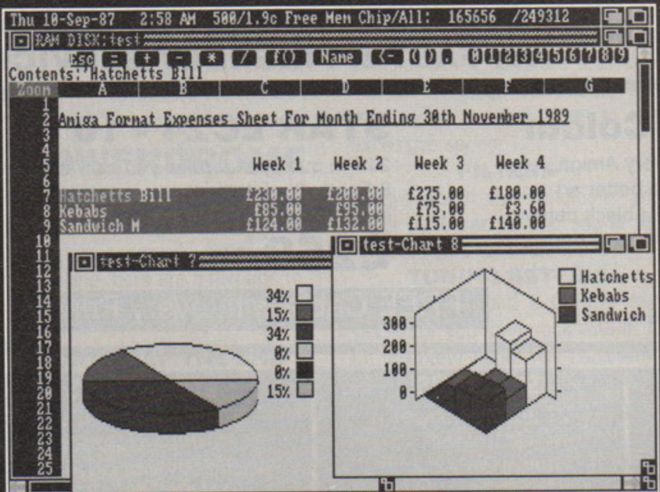
MaxiPlan is a powerful spreadsheet that can be used for a whole host of different applications including straight spreadsheet analysis, database management, business graphics and project management. The program uses the familiar Intuition user interface and as such, is one of the simplest to use spreadsheets available. Any range of data can be highlighted and then graphed in upto 10 different styles, including 2D and 3D pie charts, bar charts, line charts etc.

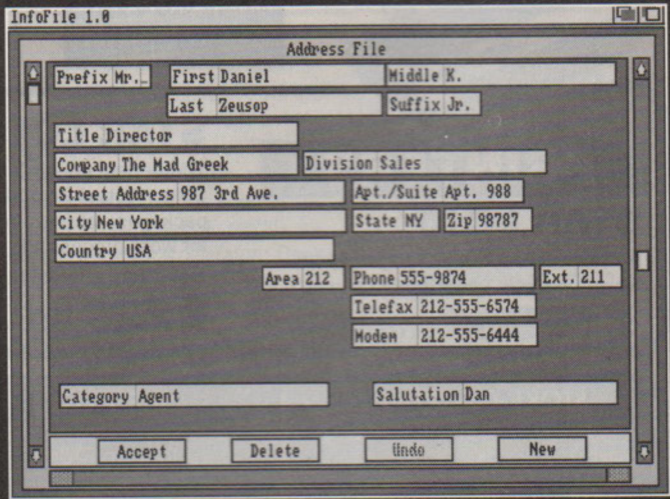
Office Solution?

Although most of the packages are far from being classed as 'heavy weight' business programs (with the exception of *Maxiplan*), all work well together and will no doubt fulfil the needs of small companies and individual users. At the price, the *Home Office Kit* is one of the few real bargains available for the Amiga. Buy it now! ■

HOME OFFICE KIT

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■ **On the left above: keeping track of your money is simple with the graphic presentation of *MaxiPlan* spreadsheet. *Infofile*, shown on the right above, is a simple card file-type database from Softwood, creators of the *Pen Pal* word processor reviewed last issue.**

GAMEBUSTERS

Not enough energy to beat that end of level nasty? Never fear, Gamebusters is here, to lead you away from the path of despair and into the glorious light of revelation.

PACLAND

A few tips for this simple but fun arcade conversion.

LEVEL 1

In one player mode, run to the right, and when you get to the third fire hydrant, jump over it and push it to the left. This will give you a blue hard hat which protects you from falling ghosts.

LEVEL 2

On this level, go right, and when you've jumped over the third cactus, push it to the left as you did with the fire hydrant in Level One. This will make you invincible for the rest of the level.

LEVEL 3

At the end of this level you will be given a pair of magic boots. On the way back, push the cactus on the edge of the lake to make a big yellow Pacman appear, then collect it for an extra life.

OTHER POINTS

Jump on the roof of the approaching ghosts' cars to escape.

Only collect power pills when ghosts are in range, otherwise it's a waste of time.

When you are approaching the Breaktime sign, jump about two and a half centimetres away fom it to receive the maximum bonus.

Howard Ford
Steyning, West Sussex

POWERDROME

For all you hovering speed freaks who can't quite get into the swing of your marvellous racing machine, here are a few tips to steer you in the right direction.

TUNING UP THE SHIP

After a while, you will come to learn your own requirements for the trim of the ship, but here are a few recommendations.

Fuel Selection

There are three types of fuel;

1. Nitra-mono premium: Use this on the easier tracks, not on the more difficult bendy tracks, and be prepared for frequent fuel stops.
2. Mono standard: This is the mid-range fuel, and doesnt offer many advantages at all.
3. Economy Special: This is the best fuel to use on the more difficult tracks. At full thrust (without afterburners) it provides the perfect speed at which to go through tunnels. Other fuels are less economical in these conditions, and can cause crashes due to the excessive speed.

FILTERS

Always watch the conditions and make quite certain that you fit the correct filters for protection.

TUNING SET-UPS

If you have found a formula that works for you then stick with it. If, on the other hand, you can't work out your ideal settings then these may be useful: use the largest aerofoil, the largest brake and move the roll/pitch bias 2-4 clicks left of centre.

CENTERING FIELD

The recommended setting for this is around three. If you press A to recentre, then remember to turn the recentering field back on.

QUALIFICATION

As soon as you achieve the fastest time, quit the qualifying session and get into a race. If you don't get the fastest time, don't worry too much, because you can soon get to the front of the pack.

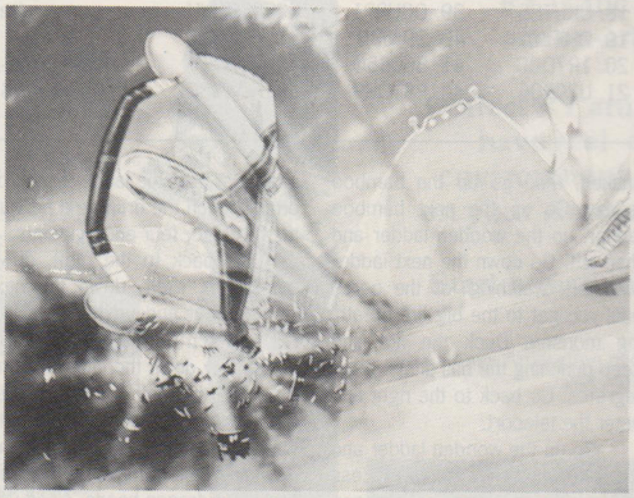
STARTING A RACE

Set the centering field as soon as the start screen appears. At the start of the race, get ready by having one hand poised over E on the keyboard and the other over the accelerator button. As soon as the lights change, press E quickly followed by the accelerator. Don't use the afterburners for two seconds or you'll definitely stall the ship's engine.

RACING

One general piece of advice: don't panic! If you whizz off at ridiculous speeds and panic whilst trying to overtake, it's very likely that you'll overuse the afterburners and lose an engine.

Try to keep a constant speed throughout the race. If your terminal informs you that you are 200 seconds behind, just stay calm. Don't rush things. You'll soon catch up.



■ General advice for *Powerdrome:* don't panic! If you whizz off at ridiculous speeds and panic whilst trying to overtake, it's very likely that you'll overuse the afterburners and lose an engine.

PITSTOPS

To enter the pit, switch off the centering field until the very last second, and remember to turn it on when you go down the pit lane.

Make as few pitstops as you possibly can. If an engine goes then go in and replace it straight away, but if a wing or nose section gets damaged wait until you go in to stock up your fuel supplies. Only go in to replace these sections if control gets a bit on the difficult side, otherwise hang on.

While in the pits, press the NEXT task whilst a part is being replaced, otherwise it may be replaced twice.

Stephen Bishop
Bromyard, Herefordshire

PASSING SHOT

To serve an ace every time, follow this advice...

As the ball is coming down on the serve, make sure you can see part of the circle around the ball when you hit it. If you are serving from left to right use a slice, and if you are serving right to left use a lob. This technique can be difficult to begin with, but it can be successful with a little practice.

Lee Henson,
Kidderminster, Worcestershire

SWORD OF SODAN

Type in NANCY on the high score table to get infinite lives and the ability to skip levels by pressing RETURN. To finish the game, get to Level 11 and press RETURN to see the end result.

Gavin Wilson,
Wroot, Doncaster

3D POOL

Here are the correct settings for a few of the trick shots:

Trick Shot 10 – 0948 091 63 20
Trick Shot 13 – 0006 043 39 10
Trick Shot 19 – 0617 100 57 06

Gordon Keenan,
Mayhill, Glasgow

TITAN

Here are the codes for all the levels:

1. J4JMKR	22. 4P4192	43. KWOHME	64. 4FO39H
2. HBHCHC	23. 4ORSHP	44. HC6TS8	65. UOMO5V
3. 4492LI	24. E4DBQP	45. 7K4703	66. CO1FHT
4. OSEOEL	25. LFPOBO	46. 900PNO	67. OS4500
5. 2401TO	26. 1H9615	47. 00BI10	68. 2U4B05
6. 01LO38	27. MOBCPU	48. HO010K	69. CF6B71
7. 04KJOB	28. B9HH22	49. 1S4LOF	70. 88H102
8. 198075	29. RN4RH9	50. D8ON6D	71. H844C3
9. OU7R70	30. BG6W61	51. 3010LH	72. OO5HOR
10. H67JR1	31. 1W1FF0	52. K47OMT	73. NOTON8
11. 04JBR8	32. 044080	53. O9UPW9	74. OD8UO1
12. RDL89G	33. E396U3	54. OUEO32	75. AH3HD8
13. B8JLJ4	34. 740330	55. L29RHL	76. TIDO12
14. DNBEO8	35. 2L41H1	56. 6ORROR	77. 43L6TU
15. TMU281	36. 3GOWOO	57. H9SLHT	78. 8HHOH3
16. LO9U3H	37. 4QH093	58. ISLOU8	79. 1D1S78
17. 9JHTQN	38. FU5HJ9	59. EOROC4	80. OIPFGO
18. UKUTB8	39. OGU9P1	60. 9LQHUU	
19. OHIFJO	40. 294JBH	61. HC932F	
20. 1R7DCG	41. B60850	62. 117938	
21. U30906	42. P81OB9	63. 6048HG	

Adam Quinn,
Bromley, Kent

SHADOW OF THE BEAST

Paid 35 quid for this nicely-presented arcade adventure? Annoyed that you can't get anywhere at all? Well never fear, Gamebusters is here, with the solution to the underworld section for your monster-dodging pleasure.

FROM THE START TO THE KEY...

From the start, go left. Watch for the rocks, bats and spikes in the floor and enter the tree.

Go right and jump the fireball from behind. Go down the ladder then left, punching out the yellow wasp. Go down the next ladder and then right: crouch punching the large green insects and then go down the next ladder.

Go left and down the ladder. Go left across the bridge and watch for the tree roots from above. Go down the ladder then right, punching out the purple ogres as you go.

Go down the next ladder and then down the ladder on the right. Go down the bamboo ladder then left and down the next bamboo ladder. When you're halfway down the ladder go left. Watch for the deadly drips from above and punch the ogres. Don't worry too much about energy, since there is more soon. Keep going left and jump the gap to the key: careful not to fall!

TO THE BIG MONSTER

Pick up the key and go right, falling into the gap. Go right and pick up the energy refresh. Continue right watching for the snakes, then go up the bamboo ladder. Go up the next bamboo ladder, up the wooden ladder and then left. Go down the next ladder then left, watching for the ogres until you get to the big fire breathing monster. Duck the fire and keep punching the ball until it disintegrates. Go back to the right and enter the teleport.

Go up the wooden ladder and then go right. The disk will access and a big monster will appear. Blast it with your weapon until it explodes, but don't let it touch you, whatever you do.

TO SOME MORE ENERGY

Go right, over the bridge, and watch for the green ogres and the ceiling spikes. Go up the first ladder you come to then go left, where you will find even more green ogres. Punch the switch on the wall, which turns off a forcefield further down.

Go back to the right and up the ladder. Go left, punching the red bats and dodging the bouncing eyes, and pick up the key. Go back to the right past the eyes and bats, past the ladder to the oil drum. Punch the drum and pick up the bottle for four energy points.

Go back to the right, down the ladder, right, down the next ladder, right and up the next ladder – watch out for the snail. Go all the way down the ladder on the right and then left. Stop just after the hanging rock and crouch. Watch your timing to get past the bouncing blue demons and the fire breathing dragon heads, since you can't destroy them.

Carry on left until you get to the bouncing Psygnosis signs. Punch out the first two bats and then run straight through under the signs. Go down the next ladder, watching for the slug. Jump right over the slug and drop off the end of the ledge. Go right and watch your timing with the skulls and wasps – they're nasty! Carry on right and finally pick up the energy refresh.

AND OUT OF THE WELL

Go down the ladder to your left and then right, jumping over the slinky creature. Go down the next ladder and left past the statue. Watch the flames that scoot along the floor and the giant bomb-dropping wasps.

Go down the next ladder and left. Hit the spider off the roof and go down the next ladder. Go left, up the next ladder, left and down. Go left and punch the ghost. Go up the ladder and right. The switch you hit before should have turned off the electric field, allowing you to pick up the Power Punch.

Go left and all the way down the ladder, watching for the ghost halfway down. Go right, watching for the ghost and be careful with your timing getting past the jet engines. Keep going right past the ladder, punching out the ghosts and serpents.

Dodge the spikes and rapidly crouch-punch the fire breathing monster until it explodes. Now go through the door and climb the ladder out of the well.

The solution to the rest of the game will be in a future issue.

Martin de Ronde,
Brielle, the Netherlands

WAR IN MIDDLE EARTH

Seems as though it's the month for complete solutions, so why not have one for this Tolkein-based adventure.

From Hobbiton, direct Frodo to Buckland. Tell Merry to follow Frodo and go west to Tom Bombadil's house. From there, wait until all the Nazgul have gone west then go to the small country town of Bree.

Now follow Aragorn and direct him south below the path. Walk west parallel to the path until you come to the forest. Walk through the rivers avoiding the forest, travelling around it to Rivendell instead.

Once there, join Gandalf and direct him south alongside the mountains until the company come to a clear path leading through. ▸



■ The first big monster in the underworld. Punch the ball for a power blaster, but watch out for his fiery breath.



■ If you see this power field on, it means that you've forgotten to hit the switch. Go and do it or you'll be fried!



■ This nasty mother appears about halfway through the cavern. Keep blasting at it until it explodes, but don't let it touch you. Run away if you must, but watch the statue; that kills you as well.

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▸ The path is above some enemy troops. Direct Gandalf through this path to Lorien, then direct him south to Buringdale in Fanghorn Forest. When he gets there, 1,000 Ents will appear and set off to destroy Isengard.

Go south to Edoras and then direct Gandalf to Minas Tirith (which is at square E7 on the map), and direct all the other flashing troops to Minas Tirith as well.

At this point lots of flashing troops will come pouring out of the two castles just below Edoras.

When over 2,000 troops have assembled at Minas Tirith, direct them east and then south along the edge of the mountains. Cross by the narrow stretch of mountains and continue east.

Head north to Mount Doom where you will encounter 2,000 Orcs. You will easily be able to kill them to complete the game.

Barney Brown,
Cambridge



■ Having trouble blasting the enemy to bits in *Laser Squad*? Well, on this page we proudly present yer actual programmer's tips on playing the game courtesy of Julian Gollop himself.

FERRARI FORMULA ONE

An old game, but a rather devious way to adjust the game to your own requirements.

Boot up your Workbench disk and load the 1986.ses file into the editor. You will be able to see the initials SJ (which, incidentally, you can change to your own) followed by eight numbers including 28, the number of your car. The significant numbers are the second and fourth in the string.

The second number depicts the colour of your car (from 0 for black to 7 for white). You can also change the colours of the other cars in the same way.

The fourth number shows the relative speed of your car. Increasing this number makes your car appear faster by actually slowing the others down, so you won't get any faster race times.

If you know the effects of the other numbers then get in touch with Gamebusters.

Timothy Bridle,
Aldershot, Hampshire

LASER SQUAD

Having trouble blasting the enemy to bits in this Gold-rated game? Well here we have yer actual programmer's tips on playing the game from Julian Gollop hisself.

GENERAL TIPS

1. The most appropriate type of fire is usually determined by the distance from the target. Auto Fire is usually best at close range or when firing at more than one target, whereas Aimed Fire is best at long distances. Snap Shots can be used at medium distance or when you want to preserve ammunition at close range.
2. Always leave some, if not most, of your units with enough Action Points for Opportunity Fire, unless you are absolutely sure that there is no enemy nearby.
3. Armour is often a luxury on the higher levels. It's better to spend your credits on decent weapons.
4. Give grenades to units with high strength values, as it determines how far they can be thrown.
5. Give accurate weapons such as Sniper Rifles and Marsec Autoguns to units with high weapon skills, as they can naturally make best use of them.
6. You can scavenge weapons and ammunition from dead bodies. This is especially useful on higher levels when you can't afford good weapons, or you're running short of ammunition.
7. Buy ammunition for weapons which are likely to run out before the end of the game, such as some automatic weapons.
8. Weapons with explosive ammunition (rocket launchers and autocannons) should not be used in enclosed areas or you may blow yourself up.
9. If you see an enemy, but are unlikely to be able to kill him that turn, it may be best to move into cover, otherwise you will alert other enemy units to your presence.
10. Grenades can be used to kill enemy units you suspect may be hiding around a corner without triggering their opportunity fire.
11. Be careful when firing near ▸

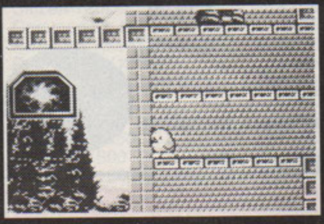
NEW ZEALAND STORY

If you're having trouble getting past that little bit in the middle of Level 2, or you can't quite beat the Rock Octopus, then you need new, improved Warps! Just get yourself to the positions shown in the pictures, and fire repeatedly at the position of the warp. Your shots should disappear for a while, then Hey Presto! You should be able to see the whirly warp appear.

The DJ,
Lymington, Hampshire



■ LEVEL 1-1 This is to the right of the start and warps to near the end of Level 1-4.



■ LEVEL 1-2 This is found just above the start and leads you to the end of the same level.



■ LEVEL 1-3 Go up from the start, over the big wall and to the right to get here. It leads to near the end of Level 2-1. To reach this warp, you must be riding a balloon.



■ LEVEL 1-4 Go up from the start to here. Warp sends you to the beginning of Level 2-4.



■ (Below, 2nd pic) LEVEL 2-4 This is to the right of the Rock Octopus, but you can get there without meeting the monster. Warp carries you to the beginning of 3-1.



■ LEVEL 2-1 This can only be reached if you go right from the start of the level. You can't get here if you warp to Level 2_1. After dropping down the big shaft, ride right on a balloon to avoid the kiwi cage and climb the ladder. The warp leads to the beginning of Level 3_4.

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SAM1.5



■ **Nothing but the best in *Amiga Format*. Below we offer the definitive playing tips for *Interphase*, courtesy of Mirrorsoft themselves and programmer Adrian Stephens.**



■ **To enter the training mode for *Denaris*, simply press Z after Game Select, plug the mouse in the second joystick port and press the... erm, well you'll have to read the tip in full, bottom right.**

▸ oxygen tanks or gas cylinders as they can explode. If you're not near any cylinders, but enemy units are, then you can fire at the cylinders (as they are a bigger target) to take them out.

12. Don't carry too much equipment as this will inevitably slow you down considerably.

SCENARIOS

THE ASSASINS:

Rocket launchers are very good on this scenario. You can destroy large parts of the house, thereby revealing enemy positions.

Concentrate on finding and killing Sterner Regnix.

MOONBASE ASSAULT:

Grenades are very useful for destroying the large clusters of analysers and data banks in the central area. You can also win by killing all the enemy units.

RESCUE FROM THE MINES:

You need explosives to blow open the cell doors and remember to carry extra weapons so that the escaping prisoners can use them. It's best to concentrate all your men in one area rather than splitting your forces.

One of the enemy units carries a video key which can be used to reveal all the enemies' positions. Sniper rifles are very useful in the long corridors because of their extreme degree of accuracy.

CYBER HORDES:

Battle droids can only be destroyed by AP75 grenades, firing at their backs where their armour is weakest, or using an auto-cannon. The AP75 grenades provide the best option for destroying them. In the open casket is a key to unlock all the other caskets, which contain weapons and ammunition.

Move cautiously, because you don't always have to attack: you can wait and ambush the droids. Don't expect to be able to stop the droids destroying the first two cores, so don't waste men trying to protect them.

PARADISE VALLEY:

Venomous Splurges will reappear a few turns after being killed, so don't hang around. It's best to go through underground passages. There are several entrances up and down between the levels. There are two on the left hand side, both surrounded by a clump of bushes. You must destroy the bushes and walk onto the space, then you will be transported to the underground level. It is possible to get extra weapons from the storage chests.

INTERPHASE

Nothing but the best in *Amiga Format*. Here are the definitive playing tips for *Interphase*, courtesy of Mirrorsoft themselves and programmer Adrian Stephens.

1. Always clear the level you are working on of fighters and alien generators before tackling the puzzles.
2. When attempting to take out specific objects, use a locked missile. Firing cannons wildly will do more harm than good.
3. When placing tractored objects into their wireframes, check the alignment from two sides to get proper 3D positioning.
4. If you spot a red arch, remember its level number for future reference.
5. Always attempt to get all your energy back before finishing a level and entering a tunnel.
6. Save the game when entering a tunnel and again at the end if you navigate the tunnel successfully.
7. On the blueprint, you may have to deliberately set off robots in order to clear them from an area the girl will cross later on.
8. When attempting to destroy fighters which home in on you, either fly fast and shoot them using REAR VIEW, or fly backwards very fast.
9. Take a good look at the overall blueprint before starting, since some puzzles are chained to each other.
10. When playing a level for the first time, make a note of which items trigger which robots and build up a picture of how the level is contructed. There are no random elements in the robot control aspect of the program.
11. If you have to cross an electrified floor, use a nearby robot to deactivate it first.
12. Use the TURNTABLES to redirect problem robots to other areas of the building which will benefit you.
13. Don't be afraid to get the girl to back track: this is essential for some puzzles.
14. Some cameras and pressure pads are red herrings. Learn the ones which are relevant to the route you need.
15. Set up areas of the blueprint before you need to. This will save time flying from one component to another when time becomes short.
16. Many levels are much simpler than they appear. Try the obvious first.
17. Beware of loose robots doubling back if you wait too long.
18. Map out the level if it appears complicated and mark the relationships between objects.
19. When you are experienced, don't waste too much time reading KAF-E's messages: these are generally standard for each item.
20. On the top floor, neutralise all risks (robots in the building and fighters in the 3D world) before examining various vaults.
21. Some of the fighters on later levels are very intelligent: learn their strategies and develop methods to counteract them. For example, the blue flying ray knows which component you are interested in by checking its NAVCOM status. Either destroy it (carefully) with a missile, or when you have found the component you need, NAVCOM onto something else to distract it.
22. The "bird fighter" always circles ahead of you, and can outrun your missiles. If it proves to be a problem, LOCK and FIRE a missile at it, then "catch" it with a tractor beam, allowing the missile to catch it up and destroy it.

Who says that cheats never prosper? I know of three that have. Martin de Ronde, The DJ and Stephen Bishop all receive £50 worth of software for their tips. If you think you can delve to the deepest reaches of a game and provide some useful hints, then jot them down, stick them in an envelope with a stamp on it and send them to GAMEBUSTERS, AMIGA FORMAT, 4 QUEEN STREET, BATH, BA1 1EJ.

DENARIS

To enter the training mode, simply press Z after Game Select, plug the mouse in the second joystick port and press the right hand mouse button while the game loads.

Adam R Morley,
Stoneygate, Leicester

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FORMAT LETTERS

All your contributions to the heated debates in these pages are welcomed by **BOB WADE**. But notice our glamourous new address: 30 Monmouth St, Bath, Avon BA1 2AP.

MODS AND ROMMERS

I am writing to endorse the letter published in the December issue from George Blades, please let's have more technical info for the Amiga. What about some hardware 'mods', such as a switch to enable booting from an external drive instead of DF0:, or how about info on fitting 1.2 or 1.3 Kickstart ROM, that are switch selectable.

Something like the sound sampler project in the old *ST/Amiga Format* (Issue 11) would, I'm sure, prove very popular, as there is a large following of electronics enthusiasts reading *Amiga Format*. (We are not all idiots, you know).

Pete Cunningham
Chester

Are you saying that anyone who isn't an electronics enthusiast is an idiot? Tut, tut Mr Cunningham. There are still plans to do more hardware projects, but as I'm sure you appreciate we cannot knock them up overnight. We have already run a piece on swapping Kickstart 1.2 for 1.3, and if you look at Pages 138-139 you will find details of a device for swapping between the two.

HAPPY WITH YOUR DISK?

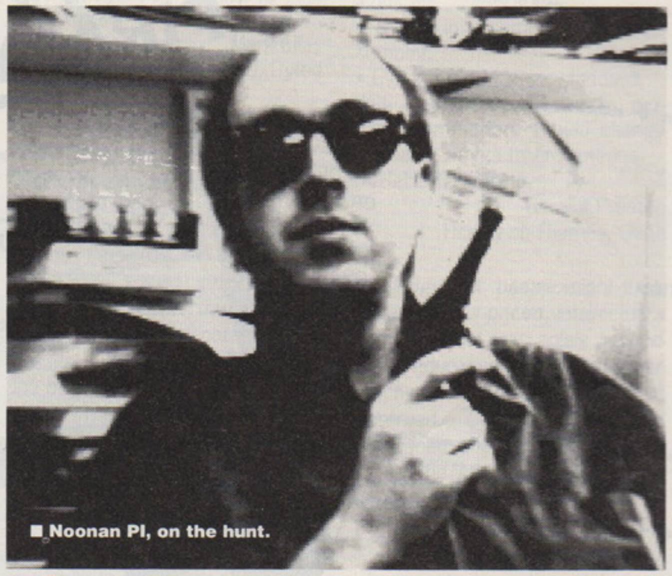
So, what DO we get for that extra quid we pay on the mag that represents the cover disk? Well, to be honest, if one thought about it properly, you would see that with the game demos, the PD utilities, graphic and sound demos, the hacks and cheats, and the fun little hacks for Workbench, you are receiving about £3.00 worth of programs for 50p (if you take off the value of the disk itself).

I know £2.95 is steep for a monthly mag, especially if like me you buy four mags each month, which adds up to quite a few akkers, but two other of those mags give away disks for the same price and I think it's got to be good to have all these programs at your fingertips.

Personally, my disk box is brimming with cover disks which would, alternatively, have taken a long time to collect through other sources, so it has saved me a lot of bother and effort and ultimately money – in letters, postage, phone calls and club memberships! Keep them coming, I say...

P Biancheri
London SW20

...and keep them coming we will. Our philosophy has always been to provide as much variety as possible on the disk, so that people can use what they want, discard what they don't, and still have a blank disk at the end of it.



■ Noonan PI, on the hunt.

ADS SUBTRACTION

I can't agree with the people who write to complain about 18 or so pages of games reviews. Even though I prefer to use my Amiga creatively, I like to see what new games are like and whether standards are improving. What I do object to is the amount of adverts in the magazine.

December's issue had 92 pages of them which is 54% of space in the magazine. To pay for a mag with so many adverts is wrong when advertisers are charged so much to display their ads, anyway. Is this going to continue? If it gets any worse the magazine will become unreadable and I, a dedicated reader, shall be forced to spend my £2.95 on other things.

Also, what happened to the hardware projects? This was one of the things that raised *Format* above the other 'less intellectual' magazines on the same shelf. I hope these haven't been abandoned in favour of more advert space!!

Simon Robbins
Spalding, Lincs

Nothing gets abandoned in favour of adverts. If you count the number of editorial pages in each issue you will notice that they too have been increasing in number.
Adverts serve many useful purposes – they provide us with revenue to produce bigger and better magazines, they can provide good deals on hardware and software that you could never find by shopping around the high street, they keep you informed on what is coming out for the Amiga and sometimes they look good. Many people actually enjoy the adverts as reader surveys have proved in the past.

Without adverts we could not produce the size, colour or quality of editorial that we do.

NOONAN P.I.

(Prize Winner)

Your magazine was always a worthwhile buy, and is even more so now that the half containing articles about the ST has been kicked out.

In fact Issue 4 was the most spiritually wholesome and generally ultra-wonderful publication since the Hitch-Hiker's Guide to the Galaxy. It had a good balance of subjects to keep any reasonable user (and any games player) happy.

Anyhow, I digress... The point is that part time undercover detective and mild mannered columnist Damien Noonan has done something that no-one else can: he has seen in "all good book shops" a copy of Addison-Wesley's "Amiga Hardware Reference Manual"!

Can it be that you have on your staff a nutter?! (What do you mean yes?!). Either the inset (p.20) should have read "No book shops at all" or Mr Noonan is a psychotic hallucinator.

I have looked in all the book shops in the known galaxy (well...), and I've come as close to finding this book as Atari have to making a decent computer!

I ordered this highly recommended oracle of all knowledge and sat back in eager anticipation of the moment when I would hear the gentle thud of its arrival on the 'welcome' mat...

...Four months (yes, Four Months) later the book shop informed me that it was being reprinted and would not be available until January 1990.

I then proceeded to telephone all of the likely outlets who advertised in your magazine to buy ►

the old edition, but had no luck. Softville PD informed me that the release date had been put back even further.

So why is it that such a vastly-selling manual is not obtainable: surely it doesn't take more than five months just to reprint an updated version?

If you know someone out there who does have a copy of the old edition for sale, could you please inform me of same, or recommend another book which will give me the information I seek (namely how to program the hardware from assembly language).

Tim Harris
Lymington, Hants

CONSOLED BY THE AMIGA

Could you please tell me if you think that games consoles, such as the PC Engine, Megadrive and Konix, are better than the Amiga. Personally, as an Amiga owner, I think that it is superior, but my friend says that the three consoles are better than the Amiga. His evidence is that a computer magazine said that they were better. For my peace of mind and other fellow Amiga owners, could you please gut him, by backing me up. Even for the games, the Amiga is, quality wise, more capable and price wise, cheaper.

Paul Kersch
Ingatestone, Essex

Of course it's superior – don't take any of this 'my console's better than your Amiga because it has one good game that yours hasn't' drivel. Can those consoles give you such astounding art packages? – nope, have they got brilliant music programs? – nope, have they got hundreds of games available for them? – nope, do they have the massive range of game types the Amiga has? – nope, they sure don't.

Admittedly they are cheaper but why pay £150 for a machine that only plays a few games. The Amiga will be around a lot longer, with greater support and variety. Consoles have a place but are not in the same league as the Amiga.

GOLD DISK

Now to the coverdisk. No complaints, only a suggestion. In *Amiga Format 1, New Zealand Story* was the demo and it also received the *Amiga Format* Gold Award. Likewise in *Amiga Format 3, Xenon 2* was the demo and it also received the *Amiga Format* Gold Award. Now wouldn't it be nice to see if the games live up to the coveted award by putting the demo of the *Amiga Format* Gold Award on the coverdisk.

I think your magazine is excellent, so please do not let your standards slip to the mediocrity of other magazines. Keep up the good work!

Mark Elias
Ammainford, Dyfed

Because of our tight deadlines it is impossible to wait until after reviewing a game to decide whether to put it on the Coverdisk or not. If we did that there would be no time to get together a demo. We try to get the best game possible for the disk and there have been notable successes, but it's impossible to get the best rated game of the month on the disk every time.

AMIGAMEDES

Here are my serious suggestions (i.e possible) for Commodore to work towards for the Amiga, hopefully to be reached by 1992. I realise you've probably been inundated with suggestions but these are believable.

- 640 x 256 resolution with 256 colours.
- 640 x 512 resolution with 16 colours.
- 8-channel polyphonic stereo sound with built-in stereo speakers and sockets for output to amplifier.
- Three-button mouse with decent buttons.
- 103 key "enhanced PC" layout keyboard with all buttons working.
- fast 32-bit microprocessor.
- IBM as standard.
- DOS, OS and BASIC in ROM; no switch-on delays.
- True multi-taking system that allows you to run programs in windows, so that when it crashes you can just close the window without affecting the operation of other tasks.
- Ability to direct output simply by dragging icon to correct place; i.e dragging a text file to printer icon to give hard copy.
- A Basic that works to a certain degree of speed and allows relatively easy use of the windowing system, as well as full control over the rest of the machine, i.e. sound graphics multi-tasking icons etc.
- A built in assembler and disassembler.
- Clock and CMOS as standard.

With all these improvements, perhaps Commodore should change the name Amiga to Archimedes. HeHeHeHeHeHeHe.

Geraint Preston
Henley-on-Thames, Oxon

Bit dodgy that, people might think it was an over-priced, intellectual's computer that was solely pitched at the education market and never reached the wider audience it deserved. Commodore's much bemoaned and criticised marketing of the Amiga has been a triumph by comparison.

VILE VIRUS

I happen to have the misfortune of receiving the treatment of a virus. This virus was in my original that came with the computer! It has struck my *Amegas* by Pandora, *Ikari Warriors* by Elite and *Terrorpods* by Psygnosis. Now they are corrupted and unplayable. I know that they are not the best of games but I still feel sick!

I wish to know if any of the software companies will replace them if I wrote to them. (Free of charge).

One more thing, please give me some facts on how a virus could strike and spread. I feel so sick I could vomit. (Caused by the ****** virus)

Don't ask me the name of the bummer! I don't know.

Mr B.C.
Llanelli, Dyfed

The software houses should replace your disks but they will probably be a covering charge. To eliminate viruses there are three things to remember:

1) Always leave disks write protected when possible.

2) Before inserting a new disk turn the Amiga off at the power supply and wait about 15 seconds.

3) Get a virus killer like Virus X 3.2 – not Version 3.3 because it is a virus in disguise.

As for the virus making you sick, it's the first known case of catching an illness from a computer virus – tell the Guiness Book of Records. I like a laugh.

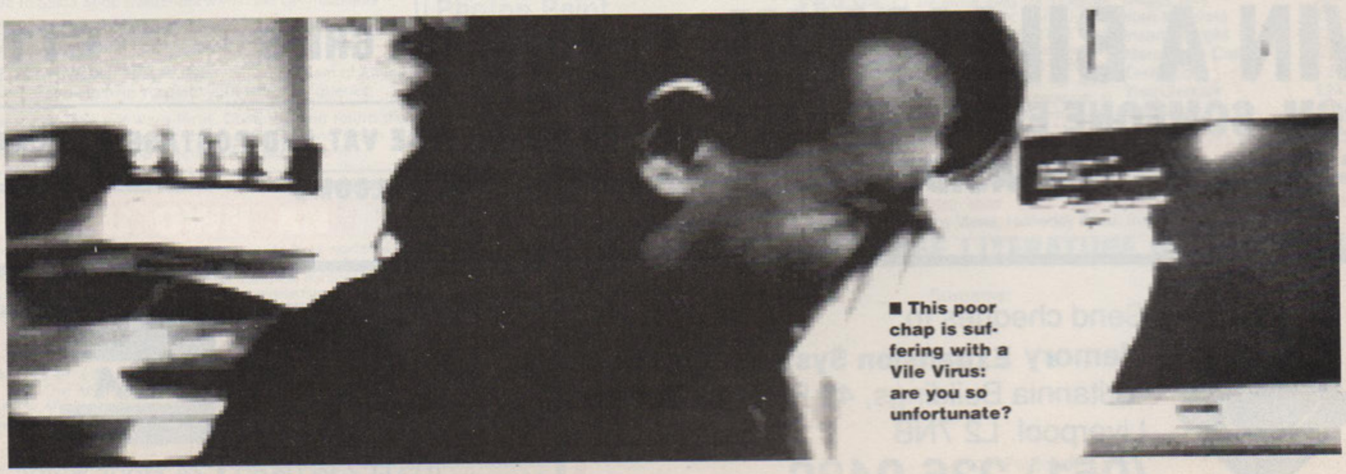
HAPPINESS IS A FORMAT

It's about two o'clock in the morning of a typical Saturday night. Since I couldn't sleep, I made myself a cup of coffee and I've started writing.

Now you listen good, you are going to print this letter from the next paragraph, or I'll send my pet armadillo to bring me your skull. Sorry, got a bit carried away. Here we go!

I am proud of you, you're getting better and better each month, comparing Issue 1 to Issue 4 there is at least an increase of 25% in terms of better value, better reviews and better choices of software on the coverdisk, wouldn't you lot out there agree?

Hah! It's always the same arguments, isn't it. I quote: "you are not allowed to print any more game reviews, because I'm a very important and greedy person and I don't want to see games in my magazine, if I want to see games I'll go buy the ACE! If I see any more game reviews I won't buy your very expensive magazine



■ This poor chap is suffering with a Vile Virus: are you so unfortunate?

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comparing to my 35K per month any more." Here is another example, again I quote: "I think you should have more games reviewed, I mean I don't care about what you think, you should at least give 95% of your magazine to games. Yes and I don't want to see no technical, helpful, problem solving, software reviews and news any more!".

How do you do it? I mean, if people think it's easy, tell them they can come round and do next month's magazine: I bet not only would they be two or three months late, but they will lose over half of the readers and the other half wouldn't even consider buying the magazine, most probably because they can smell them from a mile away.

Now you listen good, you Amiga owners out there: this bit is from me to all you who might fall into the above categories. "I do NOT have one game. But for God's sake, the mag is "a comprehensive package for the Amiga". It is NOT just a game magazine. It is NOT just a serious software magazine. It is BOTH.

Which is a lot more than you can say about any other magazine, in any subject. This team is doing a great job, so don't you complain. No more 'I want more games', no more 'I want more serious software', give them a chance. And if I hear any one of you complaining about the above I shall send a terrorist round to solve our little problem!

I think having a game demo on each disk is an okay idea, but see if you could fix for more serious software (NOT PD) on the disk, in the coming year. Use a packer if you can.

I've said what I wanted to, I guess I'll leave it up to you, let's see you making it up to 'The ultimate package for the best computer in the universe: the Amiga' or maybe the first four words plus the last word!

Kambiz Memarzia
Harhills, Leeds

Mother, I've told you before I'm old enough to take care of myself – you don't have to keep protecting me. As for that pseudonym, who's going to believe that, eh?

On the offchance that this letter isn't from my mum, I wholeheartedly endorse its sentiments (except for the bit about the terrorist – I do my own dirty work witn a trusty Louisville Slugger).

HULLO JOHN, GOT A NEW MOTOR?

I am glad to see a majority of software houses beginning to port Amiga games over to the ST and other formats, which has been a long time in coming, because I couldn't see anyone swapping a Cortina engine over into a Rolls Royce just because the Cortina engine was easier to make and produce.

I know the argument is long and boring so I won't dwell much on it, suffice to say that the Amiga is a better computer because it costs more, simple as that. Anyway, now that companies are starting to understand the situation, maybe we will see some amazing games coming out, only the future will tell...

P Biancheri
London SW20

Whoa, there. Price is the only criteria? If that were the case all our competing mags could just put up their prices to £3.50 and claim to be better than us. It's such a brilliant idea I think I'll phone them up and suggest it – just as soon as I can talk properly by getting my tongue out of my cheek.

WHEREFORE ART THOU FORMAT

I have read all of your *Amiga Format* issues to date and I think they are very interesting and contain some useful information. Last month when I rushed into my local newsagents, on the second Thursday of the month, I was horrified to see no *Amiga Format* on the shelf. I then had to go to the newsagents every day for roughly a week before my beloved *Amiga Format* arrived. I thought to myself that this must have been a one off and left it at that.

This month as I reached the shelves of my local newsagents I saw again that there was no *Amiga Format*. I explained to the assistant that *Amiga Format* came in on the second Thursday of every month but she assured me that no *AF* had arrived. I have continued going in but so far it has failed to appear.

I hope it appears soon and I hope this problem doesn't arise again.

J Wykes
Bridport, Dorset

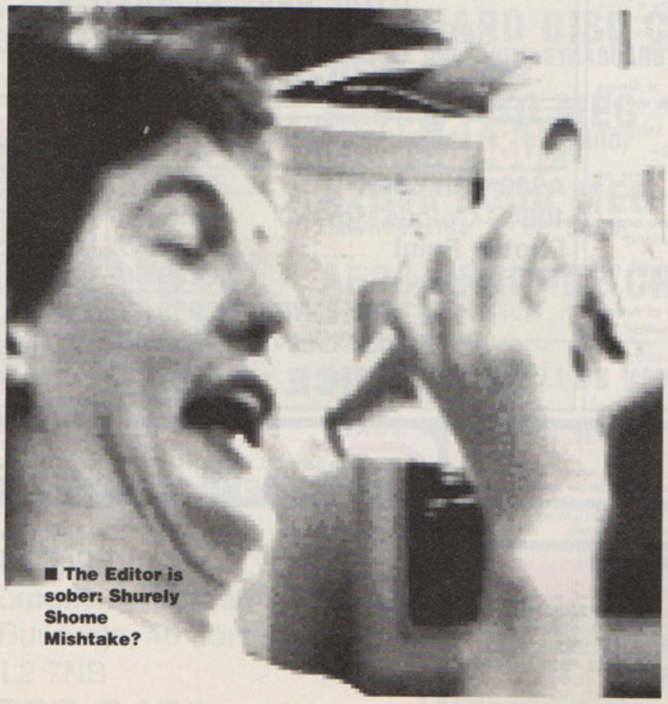
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SHURELY SHOME MISHTAKE

Is your editor a manic alcoholic? Does he not know how to "strategically" place the columns of fascinating factual reviewing in the right order? I am referring to your war games review. There I was happily progressing through your brilliant mag, when, shock! A games review with no beginning. I thought it must have been forgotten so I read the review on Page 57 about a war game. Seeing the 90% award I was frantically trying to find its name. The detective work began.

The Contents page was a good place to start and there clearly stated Page 57 *Red Lightning*. Relief, so I read on and surprise, surprise (thanks Cilla) on Page 61 a bold title and the *Red Lightning* intro. Very good reading but preferably in the right order.

Nik Horner
Sholing, Southampton



■ The Editor is sober: Shurely Shome Mishtake?

I am not an alcoholic, you ask anybody that knows me really well – like the bar staff in Hatchetts. The re-arrangement of pages was a one-in-a-million mix-up, couldn't possibly happen again, not in a month of Sundays, no sir-ree Bob, completely impossible, a fluke, a one-off. Anymore cock-ups like that one and it might very well drive me to drink... or murder.

ME-OWWWWWWWWWW

I have a question perhaps you can help me with. I recently bought myself a Geniscan from Datel for my Amiga, and eagerly looked around for things to 'digitise'. My mum's always wanted a nice picture of her beloved cat so I grabbed the moggy and proceeded to scan it. However, all I got as an image for my *DPaint 2* was a sort of big red blob with white bits in it – not a bit like a ginger puss at all. Not only that but the scanner doesn't seem to work now and is all sticky.

My question is: did I do something wrong? Like, did I apply enough pressure (I did press quite hard), or do I need a memory expansion perhaps? I hope you can answer my query as I'm hoping to digitise the Orwell Bridge with my Geniscan as I think it would make a nice postcard but I have to work out how to use it properly.

Anyway, I look forward to your reply – oh! I have to go now as I can hear my mum calling!

P.S. Do you know anyone who would be interested in some good sampled sound effects for their *S.E.U.C.K.* games? I have some wonderful screams on disk.

Zoot (an animal lover)
Woodbridge, Suffolk

And they say satire is dead. If you have a friend or relative that is completely bats-arse and droolingly out of their tree, then why not get them to write to us – we like a laugh.

WHOLE-SOME ENTERTAINMENT

I appreciate your motives for putting a commercial game demo on your cover disk, but by and large I think it is a waste of space. One might get 10 minutes use out of it, and it might help one decide whether to buy the game or not, but after that it can go in the trashcan.

Instead, how about a whole game? The Amiga is sufficiently old now that there must be plenty of games knocking around that the publishers have lost all hope of selling any further copies of. In many cases they are perfectly good games, but just a little long in the tooth. I'm sure for a very small consideration they would

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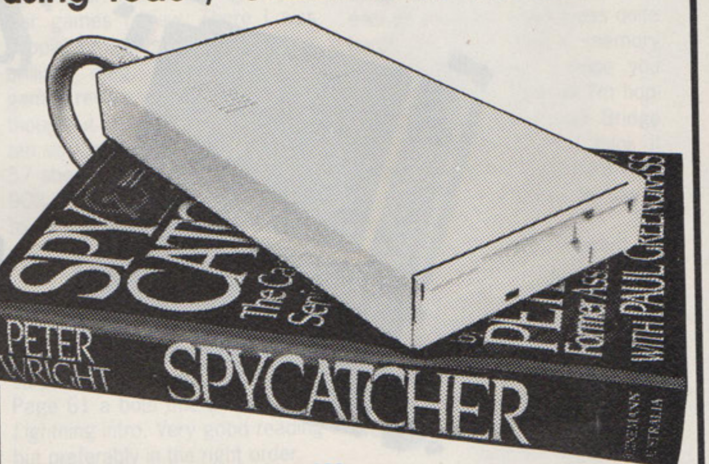
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agree to let you put them on a cover disk. I would certainly rather have a complete game that was not up-to-the- minute state-of-the-art stuff than half a level of one which was.

Roger Musson
Edinburgh

Surprisingly there is not that much material for such a scheme. Most software is finding its way onto compilations, budget labels, or was probably not up to much in the first place.

In order to get a reasonably good, complete game on the disk it would also have to eat up nearly all, if not the whole, of the disk – which would make a lot of people very unhappy. We might do whole games infrequently, but only if it's a game really worth sacrificing most of the disk for.

A SERIOUS SUBJECT

Piracy – a serious subject! I agree with some but not with other parts e.g. things like *XCAD Professional* costs over £200. I could understand someone copying something at that price.

Okay, if I was a programmer I would be a bit angry if someone was to copy my program, add their name and charge a few quid for what was mine. I've seen demos and things made by pirates. Some can program to commercial standard, yet instead they rip to pieces some bloke's livelihood.

Hackers I am totally against. I used to admire people in films like War Games breaking into computers via telephone. I used to wish I had a modem and could break into banks etc. (I never did!) But then news came out about people breaking into NASA computers and even worse, confidential files. I'd hate to think of someone delving into my post. As for jail sentences, go for this, as I think they should be put away for life.

Simon Green
Consett, Co. Durham

WHAT'S AN ST?

I think that Atari STs are **** and that Ataris should be burnt, because they can do **** all that the Amiga can do.

No, seriously, why is there so much conflict between Amiga and ST owners? There's not that much difference, the Amiga is a tad better and worth the extra wonga, so why don't the ST owners accept it? In fact, why don't both sides leave each other alone.

In fact, why am I complaining, I think STs are **** and the owners are crazy for choosing it over the Amiga.

See, this shows that there will always be conflict, just like between the 64 and Speccy (I was a 64 owner naturellement), but eventually the conflict died down, which is what the ST-Amiga conflict will do.

Paul Kersch
Ingatestone, Essex

PROTECT AND BE DAMNED

(prize winner)

I feel I must write to you on the subject of software protection as no one ever mentions it. I think it is generally best not to use it for the reasons given below:

1) It is NOT protecting the software in the long run. This is because if a disk is protected, crackers will almost certainly hack the protection out and spread the game worldwide. The protection will stop the average schoolboy from swapping the game in the playground, but will lead to far more copies being made and spread in the hacking circuit. You never see an unprotected game like *Zany Golf* on a hacker's BBS and although it will be copied locally, (between a group of friends, say) it will never be as much as a cracked game.

2) The protection normally means the owner of the original can't make a backup copy or transfer the game to a hard disk. This means that although you may have a hard drive, you can't actually make use of the thing in the way you would like to!

3) Protection often hinders the game. *Speedball* and *Xenon 2*, for example, won't load in on a machine fitted with Kickstart 1.3 even though the game would work fine if it was unprotected. Early versions of *Populous* refused to load in on nearly all computers! Novella protection is not very good either as it is most annoying having to search through a whole pile of books and can be hacked out anyway: thus the game enters the hack circuit.

4) Money spent on protecting games is nearly all wasted. Take *Shadow of the Beast*, for example. This has some of the most advanced protection schemes and yet was cracked and in the hacking circuit days after it was released. Although the protection means the game can't be copied, the cracked version will be copied hundreds of times and so the protection has probably led to more copies being made than there would be otherwise.

If there is going to be protection, I think the best type is the key-disk variety (as used in *Powerdrome*). This is such that you are allowed to back up a game and then asked to insert the original once the backup has loaded to make sure you haven't pirated the game. Although this protection suffers from the problems detailed in 1, at least the legitimate user is allowed to make a backup for safety.

I think it is a sad thing that software houses spend money on stopping unscrupulous people from stealing their work.

Roy Weekes
Sheerness, Kent

It is a sad thing indeed, but the difficulty of combating theft of this sort should not stop us trying to. It is unfortunate that most protection stops the taking of legitimate back-up copies but I really don't see that the protection acts as an incentive to copy. The toerags that steal software will try to do it whether there is protection or not – give in to them and we might as well pack up our computers now.

IT'S THAT DISK AGAIN

How come the *ST Format* coverdisk is choc-a-block with good programs? (Excellent, fully playable demo of *Interphase*; extremely fast fractal landscape generator; half-a-dozen Basic programs; 2 games; a dozen pictures; animation demo...).

The poor Amiga owners who rightly expect much better get a boring *Untouchables* demo; a couple of pictures; *Surf* (Good); Some utilities and finally the good ol' Workbench Hacks.

To this you reply "But we fill the disk up...". Yes, you do. But with what? Icons for Workbench and .doc files which take up a not-unsmall 10% of the disk!!

You reply "All of that is for the poor idiots who need the user-friendly environment of W/B...". I think that a lot less room would be used if you had a menu available from the CLI. Users could select from the function keys or the numeric key-pad, achieved by simply changing the keymap. The instructions would be printed in the mag.

A solution like this would:

a) Leave more room on the disk.
b) Leave more memory available (since there is no W/B);
d) Be just as easy for an amateur user;
e) What happened to c) ?!

Thank you for taking the time to read my letter and I would like to hear your opinions.

Tim Harris
Lymington, Hants

Comparing individual disks is not really fair, they vary from month to month and I think ours was good value. We pack as much as we can on the disk and I don't think the effort to present it well is wasted. Accessible presentation using Workbench and icons is appreciated by most, while documentation files are important. ■

SNIPPETS

MORE METAL

Firstly I would like to say that Andrew Hockings is not the only Amiga owning heavy metal fan with a Grade 4 CSE ('cept mine's metalwork).

I agree with Roger Barefoot that *Falcon* is just about right in gameplay, if only it had *F-16 Combat Pilot's* arming screen!

Simon Robbins
Spalding, Lincs

FINGERTIP LICKING MAG

How about a kind of index, at the end of each year maybe, telling one where a feature was, on what page and in what issue it was, as most problems don't occur according to the current edition. A lot of backpaging, fingertip licking and fumbling through piles of mags is required, so it would be very helpful, I think, to have that kind of reference as a backup to help matters along.

P Biancheri
London SW20

On its way soon.

BOXING MATCH

Lastly, to all those software houses reading...WHY, OH WHY do you put disks in those massive cardboard boxes. I've a cupboard full! Can you not keep them small plastic boxes?

Simon Green
Consett, Co. Durham

You're not the only one with a problem – we're moving to new offices because we've run out of space.

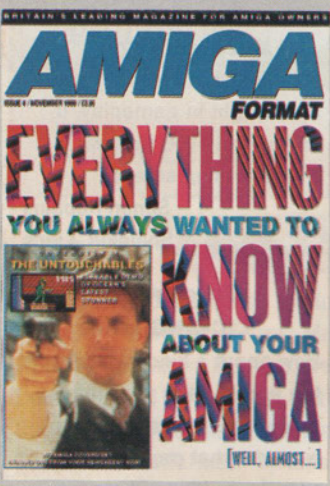


■ ***AF: Fingertip Licking Mag?***

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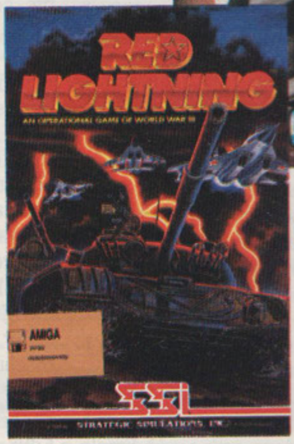
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4 Xenon 2 Megablast

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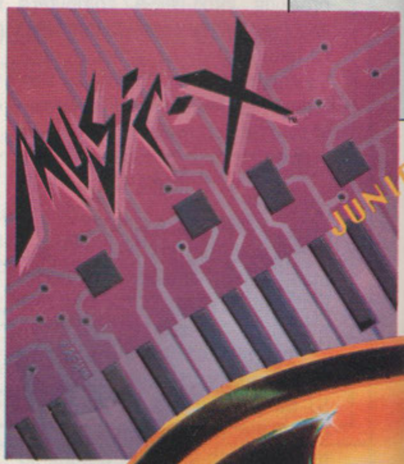
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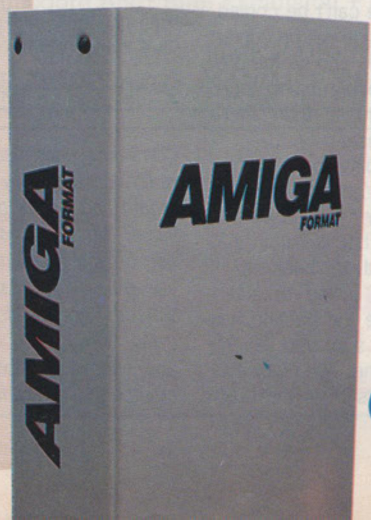
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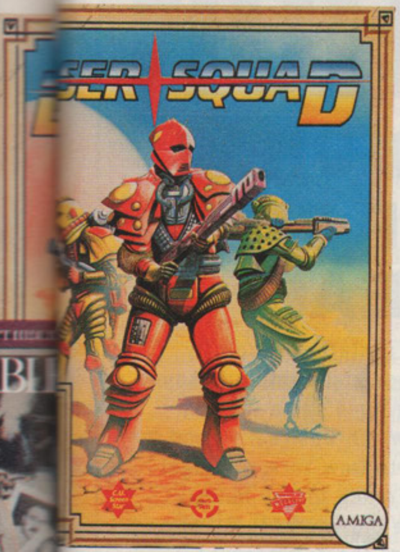




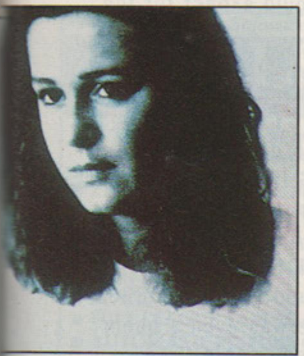
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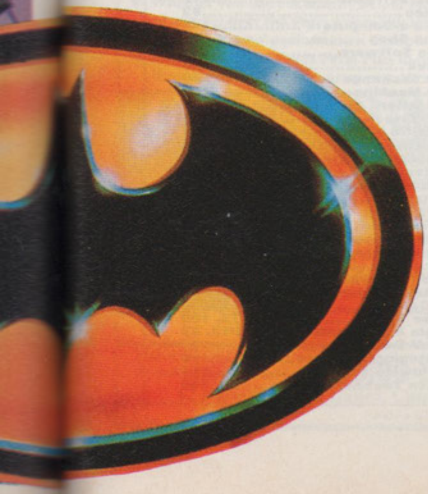
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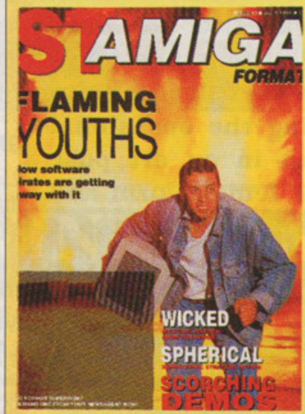
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Play the game of the future and choose disks to relive your dreams. Excellent sound and graphics from this complex and intriguing game.

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You are out to stop the slaughter of innocent humans. In particular you attempt to kill the Beast Lord himself – not easy with pulsating eyes and other dangers to endure – but the reward is freedom!

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Cover Disk of Issue 4 . Play the leader, Elliot Ness, of an elite band of government agents "The Untouchables", fight the gangland bosses against organised crime.

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GURU's MEDITATION

OH DEARY, DEARY ME

Straight in at Number Three and keeping up a fine tradition on the Previews pages last month were the transposed shots numbers 16 and 18. Thankfully they were both shots of Gremlin games, but the *Axel* shot was really the *Mindbender* one and vice versa. Nothing serious, and we hope it didn't spoil your enjoyment of this otherwise superb section of the magazine.

Climbing to the number two slot were a bunch of screen shots from the bottom of Page 25. This glorious article all about 3D, Ray Tracing and alternative realities suffered from a small hiccup when the *Sky Chase* and *Starglider II* and the *Elite* and *Carrier Command* shots were (again) around the wrong way. Sharp eyed readers will of course have noticed that the *Sentinel* shot was in just the right place at just the right time, well done the *Sentinel*.

But top of the chart and a new Number One this month is the *Tintin On The Moon* review. The corking cock-up appeared at the end of the none too complimentary full page review which included the immortal lines '...a game that's more a wasted than a fulfilled opportunity.' Then what happens? The game goes and gets a cracking rating of 83%! Obviously, *Amiga Format*'s intelligent readers would have noticed that this should really have been a measly 38%. Tough luck Tintin: in the wrong place at the wrong time.

CAPTAIN WHINGE

...absolute rubbish, I spend 17 hours logged onto an Amiga technical support bulletin board and not once did I see any arty pictures of ladies in all their finery, not once, all I got was some chap wibbling on about even CIA's and raster-over-copper-scanning listings or something, so after this fiasco I paid £75 to subscribe to another board with a very dodgy name and spent a further 25 hours reading all the game reviews, articles and generally newsy items and other helpful bits and did I get to read something rude, no I did not, I even tried downloading some of the stuff but it all came out as perfectly clean funny stories or pictures of the Shropshire countryside with young lads frolicking in the long grass, so when people go on about making SysOps pay several thousand pounds to get a licence to run a board, in order to keep the smut off the airwaves, or the wire-waves or whatever they call them nowadays they're talking absolute drivel and quite frankly I wouldn't mind seeing the occasional picture of a beautiful woman in an art pose who isn't ashamed of the fine female form and doesn't mind if other people appreciate it too...

NEXT MONTH

Issue 7 of *Amiga Format* (always a milestone in any magazine's history) will be packed with goodies like Reviews, Workbench, PD Update, and probably a couple more things from Jason Holborn. You'd be a fool to miss this modern icon, this *(that's enough – Ed)*.

CHRISTMAS PUZZLE

If your parents haven't hidden your presents on the top of the wardrobe in their bedroom, just where have they put them? Find out before Dec 25th, and send us the answer on a postcard or stuck down envelope.

REVIEW OF THE YEAR

Well, it started off pretty good – a bit cold, but okay really, then came the summer which was really good (I went to New York, Portugal and France for my holidays – where did you go?). All of a sudden the summer was gone and Autumn came – which was pretty cold again, but all the trees looked lovely with all their leaves turned golden and brown. Winter was al lright if you like this sort of thing but it didn't appeal to shoot-em-up fans. Let's hope Mother Nature's next release (due out on Jan 1st) will be just as good.

GRAPHICS About as good as you could expect for the money.

SOUND Very atmospheric, lots of effects.

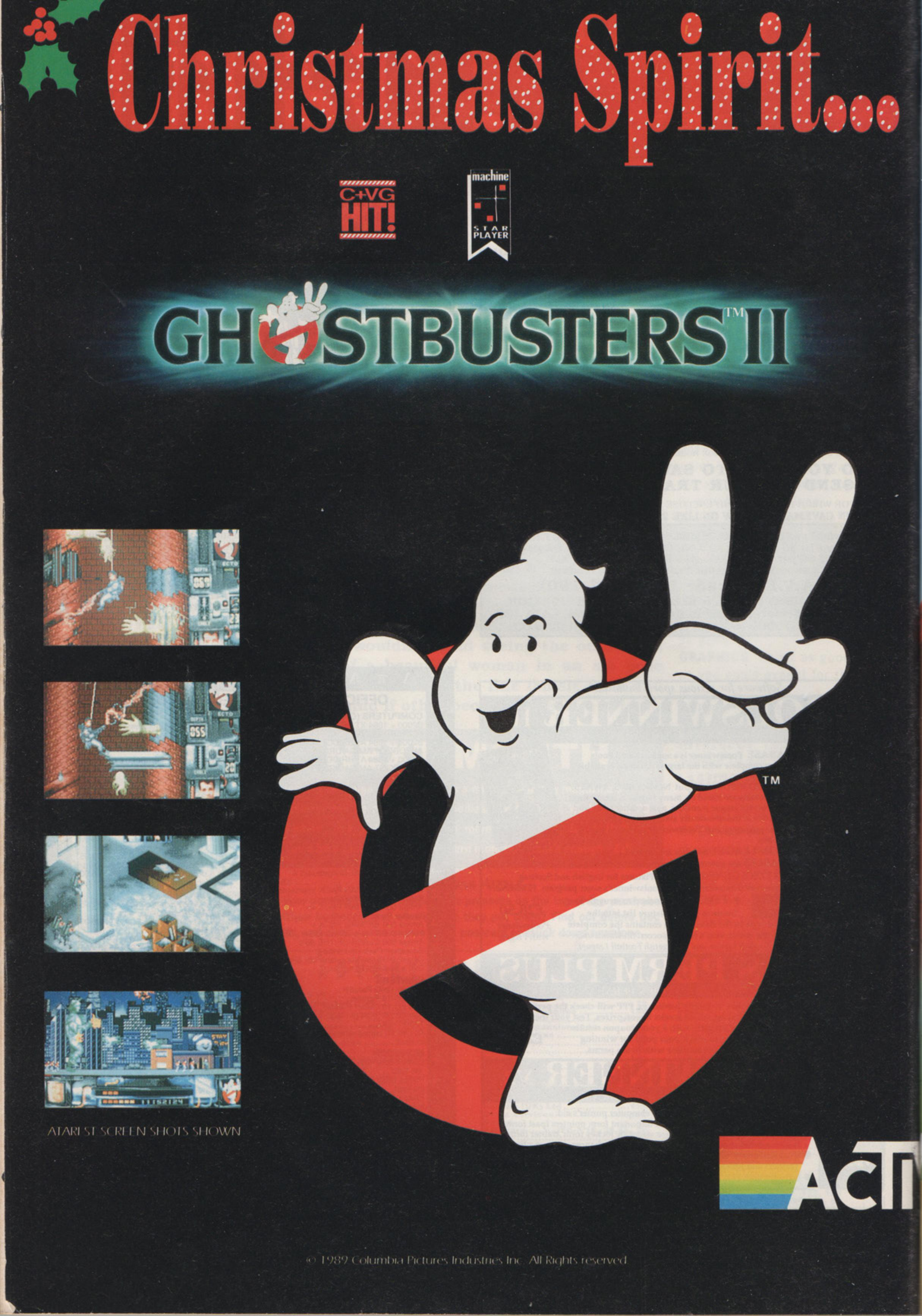
INTELLECT Lots of thought needed to get through it.

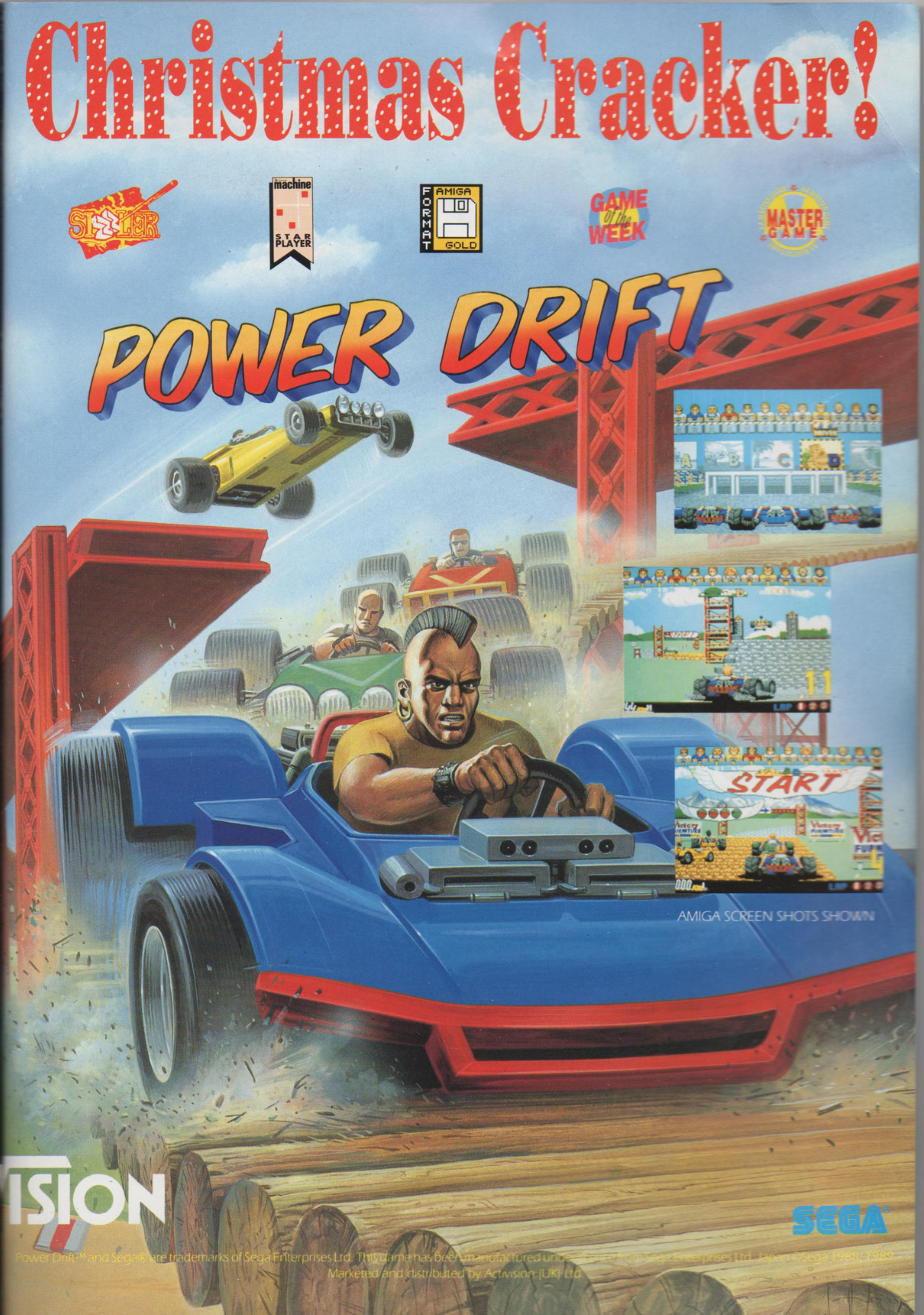
LASTING INTEREST Things picked up as the wall began to come down.

OVERALL Excellent, there's never been a better 1989: and there was even a poem by the Honourable Miss Gillian Margaret McCafferty. Perhaps we can persuade her to do another one...

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